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Issue 76
July 00
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The Music Production Magazine

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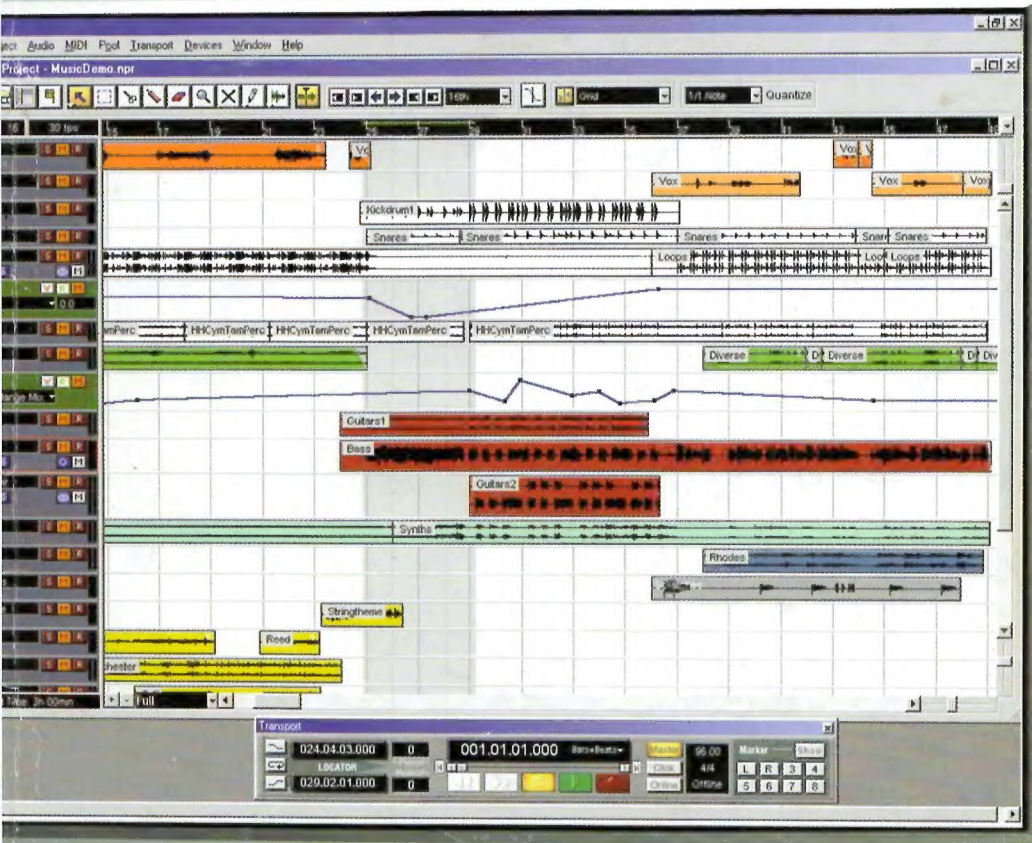

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Trident Audio S80 Producer Box

Role reversal
Waves' Maximiser plug-in goes hardware

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www.yamaha.co.uk

The MIX ISSUE 76 – July 2000
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Printing
Printed by Heron Print, Heybridge, Maldon, Essex
Licencing Enquires
Chris Power Tel: 01225 442244
UK and world news-stand distribution
Future Publishing Ltd: 01225 442244
Subscriptions/back issues
Tel: 01458 271122 Future Publishing, FREEPOST (BS4900), Somerton, Somerset TA11 6BR
ISSN
1354-4284

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Media with passion

Keep it unreal

Original punk, bass genius and session maverick Jah Wobble left Public Image Limited in 1980 to form his own band, Invaders of the Heart. Check out this month's cover CD to hear a track from their brand-new album *Molam Dub*, out on 22 May

At first there was the word, and the word was sound. This sound was OM: bottom E on the bass. The sound made vibration. Vibration is at the root of the whole of creation.

When you tailor your samples treat them with respect, for they are not yours; neither for that matter are they the property of the musicians. They're mine, and I want them back by next Wednesday.

When you're putting your little beats together, try to lose the one. You may then lose yourself, which is nice. Be a devil and try a bit of three-four. Three levels of man's consciousness over the four directions.

If you are a DJ, start your next set more slowly than you thought you would ever dare. If people tell you it's boring, tell them they are dangerously inclined to nervousness. If that does not work, tell them Jah Wobble sent you.

Listen to Arthur Blythe. If people look down their noses at you because you play repetitive monotonous beats, tell them that the rhythms of nature are repetitious: sunrise and sunset, the rise and fall of the tides. If that does not convince them, advise them to study the life of your leader Jah Wobble. My whole life is based on repetition, success after success after success after success.

If you are a remixer, you are a cook. You cook other people's leftovers. I too have no pride, therefore I do not fall.

When you mix do you think democratically? Does the hi-hat have as many rights as the Moog? Should we bend over backwards to appease our society of sound? Or should we rule with a rod of iron, occasionally making an example of an errant '70s string sample? If you're still unclear, nut the engineer. Now does it make sense?

If you feel you must, read the autobiography of Charlie Mingus, *Beneath the Underdog*. Over the moon, more like. The music business is decaying. It is going out of business. Can I sell you what's yours? While there's still time?

If you are a scratcher, increase the flexibility of your wrists by immersing them in Golden Syrup, and make hand movements similar to that of an oriental dancer.

Try cultivating an air of mystery by reducing all gestures and facial expression to zero. Speak through clenched teeth and focus your eyes approximately two inches above the head of the person your talking to. Watch with bated breath when observing anglers.

Everything is going to slow down this year. More space in the music. Much longer loops. More of you will learn to bend the beat. Refraction will be the key word.

Keep it unreal.

Jah Wobble

about THE MiX

THE MiX is the essential accessory for the recording studio. Our equipment reviews, written by working producers and engineers, give you an impartial opinion of the latest studio and recording gear, and our interviews get to the heart of the current techniques and issues in the recording industry.

THE MiX cover-mounted CD helps you produce better music, by providing a varied monthly selection of collectable studio-quality samples provided by some of the top pro's in the business, demos of the latest software and hardware, and audio tutorials demonstrating contemporary recording techniques.

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One of the most respected names in FX processing add to their budget range with this new 24-bit box. *Jon Musgrave* checks it out

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Understanding your Environment can make your creative pursuits a whole lot easier. *Adam Fuest* takes you through this often-overlooked yet essential layer of Logic Audio

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cd contents

software

track 1

PC

FXpansion DR-002 Audio DrumSampler

This freeware drum sample player is the first of a range of VST plug-in synths and samplers from those crazy software heads at FXpansion. Featuring up to 16 samples, the DR-002 has up to four separate outputs and optional looping. For ease of use, samples can be loaded up directly from the front panel and settings are stored with a song to make life a little easier. More from www.fxpansion.com.

Emagic Logic Fun

A fully functional freeware program for remixing or trying out new ideas. Load a song, take it apart, add new tracks, alter the arrangement, then save. This version includes Arrange, Score, Sample, Event and Matrix editors and QuickTime and AVI support. As well as virtually unlimited MIDI tracks, there are four audio stereo tracks in the track mixer, all featuring two EQs and FX sends.

Analog Freak

Shareware version of a standalone distortion processor. Various types and amounts of distortion can be applied to pre-recorded audio files. The demo version only works with 16-bit mono WAV files.

PSP Stereo Pack

The PSP Stereopack is a suite of VST plug-ins comprising PSP PseudoStereo, PSP StereoEnhancer, PSP StereoController and PSP StereoAnalyser. As the names suggest, these allow you to create, expand, improve, control and analyse the image and quality of stereo signals. It will also allow you to generate a stereo signal from a mono one. If the demo version supplied here tickles your whistle then get yourself along to www.psp.l.pl/indexen.html for more info.

MAC

Emagic Logic Fun

See the PC software listing, above, for a full description of this freeware program.

demo of the month

track 2

Ohm: 'Sounds of the Universe' p. 95

Industrial-inspired electronica with attitude.

commercial track

track 3

*Invaders of the Heart: 'Lam Tang Way Dub' p. 3

Hear the latest from Jah Wobble's Invaders, taken from their brand-new album *Molam Dub*, released on 22 May.

*© Copyright Control ℗30 Hertz Records

gear demos

tracks 4-5

Steinberg Nuendo p. 28

Demos from the brand-new audio production system:

track 4

The standard Nuendo Surround demo encoded as a ProLogic track. If you have a surround amp, then switch your CD input to ProLogic mode and enjoy.

track 5

This slightly longer piece is the standard Nuendo music demo, showing off Nuendo's effects and automation beautifully.

track 6

Focusrite ISA110 p. 37

The ISA110's hi- and lo-pass filters and EQ are put to work on drum loops and 12-string guitar.

tracks 7-8

Waves L2 Ultramaximizer p. 44

track 7

The L2 is used to take some extreme peaks from a drum sample.

gear demos

track 8

'Stars' by Saltlake gets the L2 treatment. Hear the track before and after maximising.

track 9

Millennia Media NSEQ-2 and TCL-2 p. 48

The mastering EQ and compressor put through their paces:

i. Drum loop flat, then with EQ, flat, then valve

ii. Synth sequence using EQ and compressor

track 10

TC Electronic D-Two p. 52

Some of the creative possibilities that can be achieved with the multi-tap delay:

i. Drum loop and chorus delay

ii. Slapback delay with tapped delay matching

iii. Rhythm function used to create double time FX

iv. Vocals with ambient chorus

v. Manic echoes over vocals

vi. Guitar with reverse delay

vii. Flanger/chorus/delay used to create liquid guitars

track 11

Lexicon MPX500 p. 62

The budget multi-FX processor in action:

i. Intro and vocal sample with a selection of presets

ii. Flanger preset inserted over hi-hats, with rate adjusted on the fly

iii. Electric piano with Tremolo Sine, Rotary and Chorus 1 FX

iv. Strings with Special FX presets

track 12

Studio Stompboxes p. 84

Hear some of the mad sounds that can be created with the MXR Phase 100, Electro-Harmonix Electric Mistress and Lovetone Ring Stinger.

samples (also in WAV and AIFF format on track 1)

tracks 13-19

Amon Tobin

track 13
i. Beard Brk
ii. Fect Brk
iii. Gingerly Brk/Bass
iv. Lazy Brk
v. Oh So Rare Brk
vi. Rubber Band Brk
vii. Brk Roll
viii. Space Bongo
ix. Crash Brk
x. Junk Yard Brk

track 14
i. Scribble
ii. Code
iii. Radar
iv. Dropped
v. Vibe tone
vi. Perc loop
vii. Hammerd
viii. Harp
ix. Crumpled bass
x. String

track 15
i. **Slippery Bass
ii. Saucer
iii. Shifting Bodies
iv. Oh Yes
v. Hammond
vi. Vynil Bass

track 16
i. Subaction
ii. Razerback
iii. Speed Gymp
iv. Insect Phone Sex
v. ***Toys
vi. Roo

** taken from the album *Something for Lester* © Ray Brown Publishing Ltd.℗Contemporary Records

*** taken from the track 'Toys' by Kitten and the Bird
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℗Folkway Records

Jah Wobble

track 17
i. Loop Beat
ii. Soundtrack
iii. Daira
iv. Bus 2
v. Bass line
vi. Nik 1
vii. Spaflinker
viii. So many
ix. Loop 2 U
x. Beacliche

track 18
i. Not
ii. Beat Cym
iii. Beat 4
iv. Beat 4 fill
v. Rain
vi. Dragon
vii. Beat flute
viii. Voloume
ix. For show
x. Sweep

track 19
i. Ila
ii. Beat loop
iii. Loop Beat 2
iv. Gongas
v. Gong 2
vi. Fill
vii. Fill 2
viii. Keys
ix. Bass key
x. Becity
xi. Sit

TC Electronic D•Two **track 10**

Millennia NSEQ-2 and TCL-2 **track 9**

This month's Sound Factory samplists

Amon Tobin
Brazilian-born Amon Tobin is first and foremost a record producer, but his desire to take his tunes out on the road prompted him to learn the art of DJ'ing 'on the job'. His first album, *Adventures in Foam*, was released under the moniker Cujo for Ninebar Records. It showcased a heavy jazz influence which has developed alongside his experimental lust for raw, sampled sound. Ninja Tune Records cottoned on to his talent and his *Bricolage* and *Permutation* albums followed. *Supermodified*, his fourth release, is out now.

Jah Wobble
As part of Public Image Limited with John Lydon, Jah Wobble's creative bass mastery helped to push punk into the realms of melody. A collaboration with Sinead O'Connor took his next band, Invaders of the Heart, into the singles chart. Other collaborators during his 19-year career include the likes of The Edge, Björk, Ginger Baker, The Orb, Massive Attack, Primal Scream and the Shamen, and he also worked on *Spinner*, an album project with Brian Eno. The Invaders' new album *Molam Dub* is out on 22 May on 30Hertz Records.

Netscape Online

Netscape Online: the free internet service in association with Future Publishing

track 1

Sign up for the new FREE Netscape Online Service, sponsored by Future Publishing and featuring content from Future Publishing's web sites.

Netscape Online brings you all your internet needs – browse the web easily with Netscape Navigator, organise your email with Netscape Messenger, and create great web pages with Netscape Composer – and all for free!

With one easy click, Netscape Online gives you...

- Search engine facilities to find whatever you need on the web
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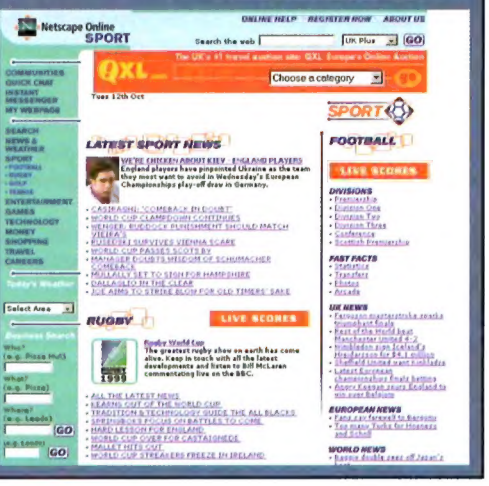
- Games for all your favourite formats, from Mac to Dreamcast

Make Netscape Online part of your daily routine. Load it up from *The Mix* CD now.



news

If it's new and it's music production, it's here. All the gear, gossip and goings-on from a month in the biz...

Major upgrade for Logic

The hi-tech industry came out to play in Germany. *The Mix* was there...

Emagic announced a major upgrade to Logic Audio at last month's Frankfurt MusicMesse, which makes the jump to 4.5 this summer, adding some great new features – including some great facilities for the surround sound fraternity. Surround panning couldn't be simpler – simply select the surround option on each track's mixer and place tracks in an 8-channel surround environment.

The mixer gets more functionality than that, though. The input signals of record-ready tracks can now have real-time effects on them. Assuming you have enough hard inputs, external mixers become less essential in the studio. There's also further standardisation of Logic's audio engine, meaning LA Windows gets improved latency with real-time instruments, improved fader latency, software input monitoring and optimised VST support.

There are also EASI drivers for LA Mac users, SoundScape support, and at entry-level, MicroLogic AV supports VST plug-ins and VST 2.0 instruments for Mac and Windows.

And what price would you put on such improvements? Well, the Emagic team are happy to say that it's free to all Version 4.0 owners and can be downloaded from www.emagic.de/english/support/download/update.html in May. Can't say fairer than that.

More from: Sound Technology
Tel: 01462 480000
Web: www.emagic.de

Love is all surround: Emagic's Logic Audio makes the jump to a very nifty 4.5 this summer

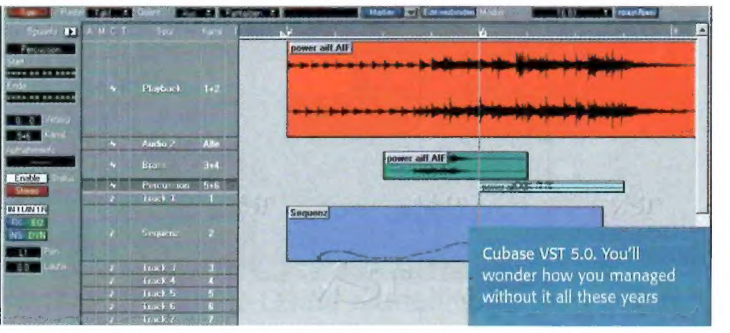
Steinberg gimme five

Frankfurt saw the unveiling of Cubase VST 5.0, Steinberg's latest take on the popular sequencing package. 5.0 has some pretty nifty new features onboard – some of which you may have spotted elsewhere. There's scalable recording up to 32-bit on up to 128 channels; not to mention folder tracks, where an infinite number of tracks can be folded away to make space. There's also the USM, or Universal Sound Module, which comes with over 70Mb of sounds, enabling live online jamming with like-minded individuals who have a USM at their disposal – a bit like GM for the online generation!

Effects also get a shot in the arm with the CubaseVerb, amongst other plug-ins. For the top-of-the-range VST/32, a couple of extra features come bundled. Firstly, there's also the new TrueTape Mode, which boldly claims to dispel the ol' analogue-versus-digital argument by offering tape compression characteristics of true analogue recordings, and Apogee UV22 dithering algorithm for getting those tracks burned efficiently.

New MIDI track mixer, improved resolution and individually scalable tracks add to the features, but we'll have to wait till the summer to find out the rest...

More from: Arbiter
Tel: 0181 970 1909 Web: www.arbitergroup.com



Cubase VST 5.0. You'll wonder how you managed without it all these years

Slipknot talk tech

This month 'the sickness' comes to *The Mix* in the shape of the most twisted crew of degenerates in all of rock'n'roll – namely Slipknot. We cornered Craig, the band's samplist, to talk technical. Be very afraid.

Hey there, Craig. So what gear are you using to get that essential Slipknot sound?
On tour right now I'm using a Roland SP808 Groove Sampler, and basically that's all I'm using on stage right now. It allows me to record all my samples and then trigger them back live using buttons. I haven't really delved into it – I haven't had a lot of time, but it's pretty cool. It basically does everything that I want it to do, even more in fact. You can even sequence songs into it, and there's a 4-track recorder in there too. Basically I use it as a scratch pad for demo songs. Until about a year ago I was using a laptop computer on stage, which wasn't very efficient.

Yikes! That's a bit scary!
Yeah, so I found this to replace the laptop. Later I'm going to get some more rack modules for sounds, maybe get a keyboard in there, but right now the 808 is doing everything that I want it to do.

How do you prepare the sounds you're going to use?
Basically I do all my stuff on my computer, then I transfer it over to the sampler. In the studio when we did the album I had a lot of stuff prepared, but I wasn't sure exactly what I was going to use. But then when we were recording the album we ended up creating sounds in the studio using a lot of old analogue equipment. It was really weird – for me anyway.

That must be quite a big change from the computer side of things?
Yeah, cause our producer is totally non-digital, you know – he likes everything analogue, which is kind of cool. We just ended up making a lot of new sounds on the album. I still use a lot of stuff that I have prepared but we also created a lot of new cool stuff in the studio. It was good for me 'cause I'd never really done things that way. It was interesting.

What gear do you like to use at home?
I use Cakewalk on a PC. I never was much into using Macs – a lot of music studios are still into using Macs but I've never liked them. And with Cakewalk I've tried other programs but I've been using Cakewalk for about six or seven years now.

Then there's the E-mu Proteus FX module. I'm going to bring that out on the next tour, then hook up a controller keyboard to it, mess around with some sounds on there. I have been looking at more sound modules as I want to get a lot more sounds.

It's quite unusual to speak to someone who's got one piece of gear and that's it...
Yeah, usually you get everybody surrounding themselves with this stuff. But one box, basically, is doing it all for me right now. Maybe one day I'll have this little circle of gear around me!

So how did you find Europe then?
I like it. The only problem I have is that I'm so busy, I never really have time to see it. But the shows over there are great! Kids just go nuts over there. Over here in America I think kids are spoilt cause they see the same bands rolling around every two months, but in Europe they're lucky to see the same band twice in the same year, even that. They go a lot crazier over the shows. And the crazier the crowd, the crazier we get!

Slipknot's self-titled debut album is out now.

photo: Mick Hutson

Craig Slipknot: he's not just a pretty face, y'know.

in brief

Nu-skool

It's the home of Billie, XTC, Justin 'Moody Blues' Hayward and Rick 'Supertramp' Davies, and to strengthen its pop credibility even further, Swindon now boasts a new School of Contemporary Music. The school's mission is to "give young people a thorough grounding in all aspects of writing, playing and recording pop music" and has been kitted out on the hi-tech side by Roland.

Phone 01793 487802 for more info.

The Korg Electribe sampler: read all about it in FM

FM take the air

In the June issue of *Future Music* you can read a review of the new Korg Electribe sampler and an interview with Air, combined with a step-by-step guide to recreating some classic Air sounds. They've also got loads of mixer tips in their *Perfect Set-up* feature, plus interviews with LTJ Bukem and Longstone, a group test of budget FX and a glimpse of the new Access Virus update. Don't miss it!

SAE degrees

Past and present students of SAE (School of Audio Engineering) can now apply for a BA (Honours) degree course in Recording or Multimedia Arts. The school celebrated their first 30 BA graduates at SAE Munich last November. The course is available as an extension to SAE's audio engineer and multimedia producer programs.

More from: SAE

Tel: 020 7609 2653

Web: www.saeuk.com

Plug-in corner

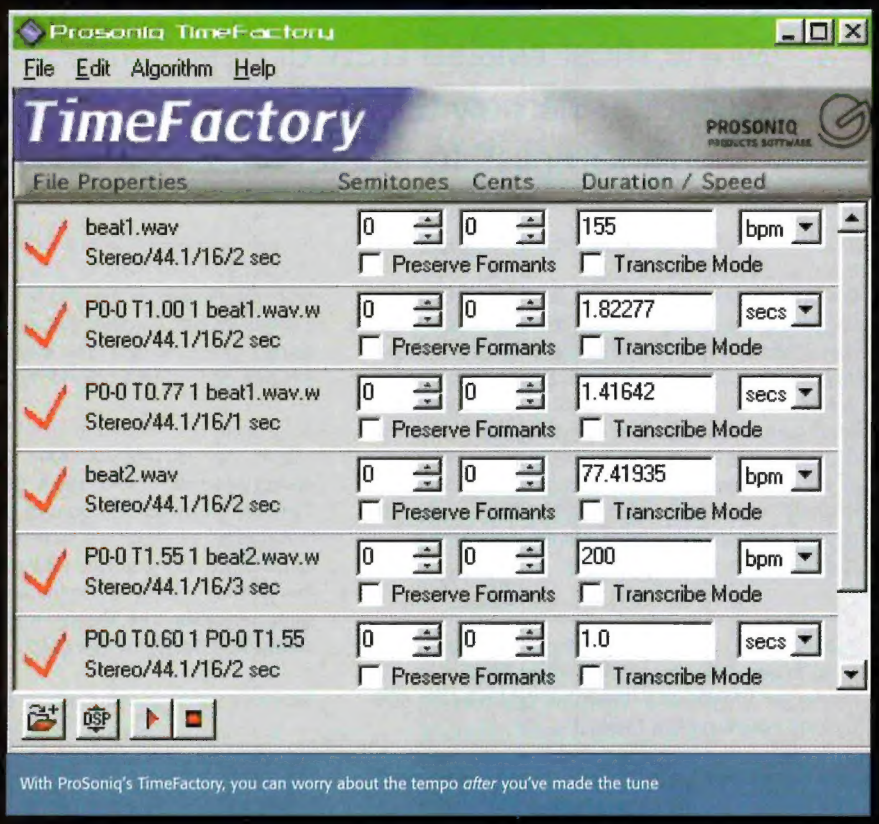
Our monthly round-up of the latest and greatest plug-ins

ProSoniq Time Factory

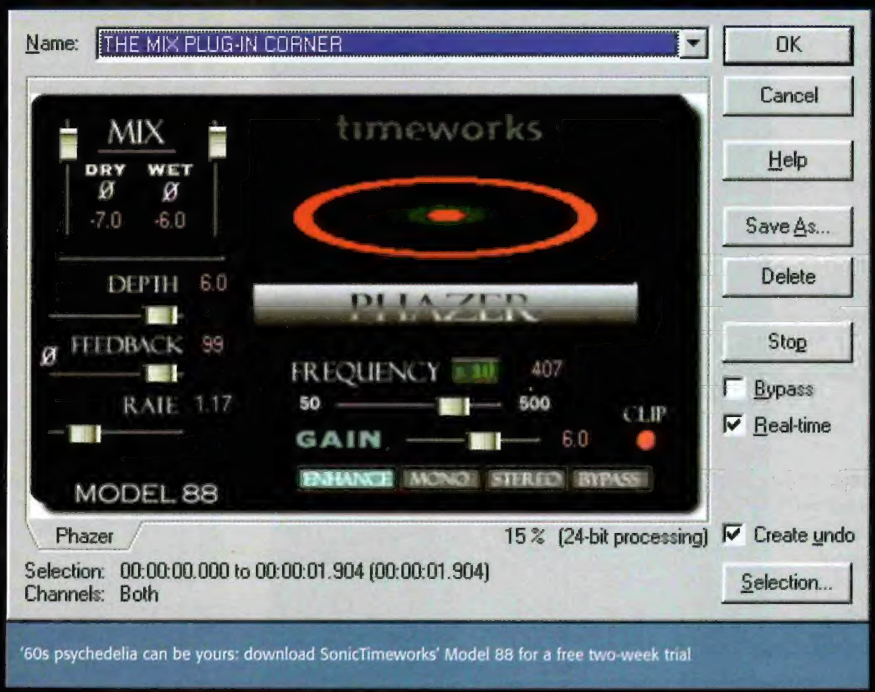
Anyone using their computer as a mastering editor will know that sometimes, when a track is finished, it sounds like it could have done with being a tad faster or slower. Time-stretching has been around for years now, but successfully time-stretching an entire stereo mix has always been fraught with danger. Overdo it and your track will sound jumpy and there are often annoying echoes that may appear.

Well, those days are gone thanks to Prosoniq's TimeFactory. Using this ingenious piece of stand-alone software, you can time-stretch by up to 30 bpm without any noticeable loss of quality! 24/96-compatible, the TimeFactory is so easy to use that we didn't even need to use the manual in order to stretch tracks successfully. As well as changing the speed without altering the pitch of a track, you can also change the pitch without altering the tempo.

This is a serious tool for anyone using their computer for mastering or even just for tuning drum loops and pitching samples. Using it is simple: just type in the required new tempo in either bpm, percent or seconds and TimeFactory does the rest. It's available for PC or Mac, and supports WAV, SDII and AIFF formats. • *Sean Vincent*



With ProSoniq's TimeFactory, you can worry about the tempo *after* you've made the tune



'60s psychedelia can be yours: download SonicTimeworks' Model 88 for a free two-week trial

More from: Arbiter
Tel: 0208 970 1909
Web: www.arbitergroup.com

SonicTimeworks Model 88

After last month's look at the Mastering EQ and CompressorX, we thought we'd take a look at another top plug-in from the SonicTimeworks stable. This time, it's the turn of the Model 88 phaser. Just like the rest of the range, this features a lovely graphic interface, which eases the use of this wonderful '70s-style phaser.

Sometimes the latest digital effects are no substitute for a good old analogue pedal, and this is where the authentically retro-sounding Model 88 comes in, as it works and sounds much like a guitarist's footpedal. As with most plug-ins, the combination of sought after 'retro' sounds combined with the ability to store your favourite patches really make this a winner. It features all the usual phaser controls like rate, feedback, depth, frequency and a wet/dry controller, as well as supporting mono or stereo modes.

The little phasing display shows you how much you are effecting the source and in what way. Try it out on rhythm guitars for that awesome late-'60s psychedelic effect, or even try it on sections of an overall mix for some interesting results. It's available on a 14-day trial download. • *Sean Vincent*

More from: SonicTimeworks
Web: www.sonictimeworks.com

FXpansion DR-002

FXpansion, the bods behind the Phat Sync, Robotik Vocoder and Ring Modulator featured in issue 74, have just released a new drum sample player plug-in. The DR-002 can hold up to 16 samples and features four separate outputs and optional looping. As it's able to read any kind of WAV files, the DR-002 can load samples directly from the front panel, without the need for a 'script editor'. To make things even easier, all the samples and settings are saved as part of your song. Available in DirectX format, the DR-002 is free (yes, free) and it's on this month's cover CD. • *Sean Vincent*

More from: FXpansion
Web: www.fxpansion.com

TC Native Bundle for Mac

Famous for its host of quality and affordable plug-ins, the Native Bundle does what it says on the box and brings you a stack of quality plug-ins: Native Reverb, EQ, EQ-G, Native L and the 'Swiss army knife' dynamics handling. We reviewed the PC version back in June '99 (check www.themix.net for the full review), and now they are available for Mac users. Designed for use on a G3 Mac using OS8.1 or higher, it all comes on a CD-ROM and is authorized via the challenge/response method that most of us are getting familiar with.

This great-looking software can yield some very creative results. The reverb has a load of presets, including drum booths, rooms of different sizes and lots more. Parameter editing is very simple, with graphical illustrations of room shapes (three in all), diffusion effects and colour of sound. Even the metering is great: nice big I/O meters with mix, level and compare controls – never mind the virtual data wheel.

The EQ is again, a great-looking plug-in and works reasonably well too. You get EQ-P, which is a powerful 10-band type incorporating parametric, notch, low and high shelf, as well as 3-band control from the virtual joystick.

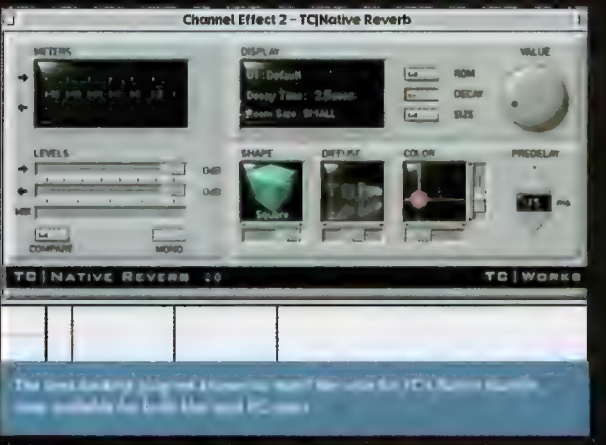
EQ-G, which is a 28-band graphic type, has a massive graphic interface so the user can tweak individual band gain control. Grouping of bands is also possible, so handling can be customized.

Dynamics control comes in the form of Native DE-X. Presets abound, and it shares the fine look of the others in the bundle. Powerful compression allows for good control of tracks, single band compression or de-essing or how about stereo mastering? Attack, release, threshold and ratio control allow straightforward and familiar programming; it also offers automatic make-up gain, hold time and a soft/hard knee button for different compression curves. The de-esser is a bit small and the general sound of the plug-in is a little brittle, but then that's digital for you.

Native L is the last in the bundle, and is basically a maximiser device, or fancy-looking shut-out limiter. Again the presets are handy if you're not into mastering (or are lazy). If you want the most from your music before 'going to press' then this is a quick and efficient tool for the job.

Overall, the TC Works Native Bundle is an all-round solid bit of software, a bit clinical in areas but great for those who like their gear simple and affordable. • *Seb Pecchia*

More from: Arbiter
Tel: 0181 970 1909
Web: www.arbitergroup.com



in brief

Drum'n'bass day

Cymbal giant Zildjian's much-anticipated drum'n'bass club event has now been confirmed to take place on May 24. The night aims to highlight the contributions drummers are making to the club scene. Artists confirmed to appear at the event include Marque Gilmore, Paul Kodish, Keith LeBlanc, Andy Gangadeen and hotly-tipped New Yorker Zach Danziger. More special guests are to be announced, including a mouth-watering selection of contemporary UK DJ talent. "Set in the suitably groovy environs of the Imperial Gardens Club in Camberwell, London, this is going to be a full-on club night," says Bob Wiczling, Zildjian International Marketing Manager. "To really experience what drum'n'bass is about, it should be seen in the context of its home environment, and that's definitely the clubs. The popularity of drum'n'bass continues to grow worldwide, and there has never been a better opportunity than this to see some of its leading exponents all gathered together under one roof".

More info from Zildjian: 01344 885560

Computer Music

The bass is very much in the place in June's bottom-heavy edition of *Computer Music*. They've got tons of comprehensive advice for getting the most from your b-lines and, of course, a tutorial for Propellerheads' seminal ReBirth soft synth. The reviews section is headed up by Bitheadz's stunning Retro AS-1 VST plug-in synth. Go get it right now!

INDUSTRY NEWS

Mike Collins reports on a month in the biz...

overall effect had to be heard to be appreciated – which it certainly was, judging by the healthy

'Careless Whisper', for example – is building a new programming room at Eden Studios. This will

'Out Of Eden' and will feature a Fairlight Fame II system and Dynaudio 5.1 monitoring

Got any hard information, tons of interesting projects, observations or gossip for Mike Collins? Email him at mikecollins1@compuserve.com

It was all happening in 5.1 at Hear No Evil this month

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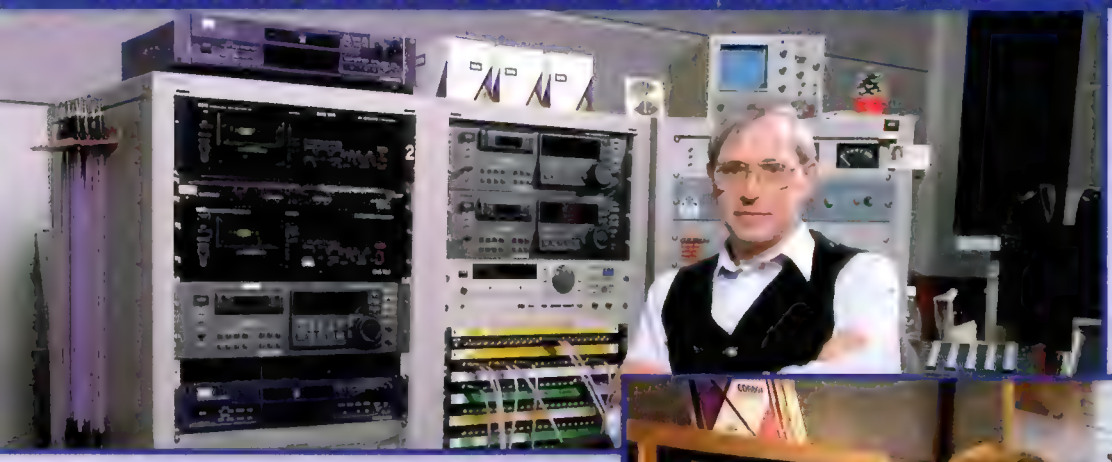


ON AIR..

Every day, more than 230 HHB CD Recorders are converting existing analog material to CD in over 20 CBC broadcast facilities across Canada.

Pictured: CBC Senior Archives Technician Don Davies.

ON THE ROAD..

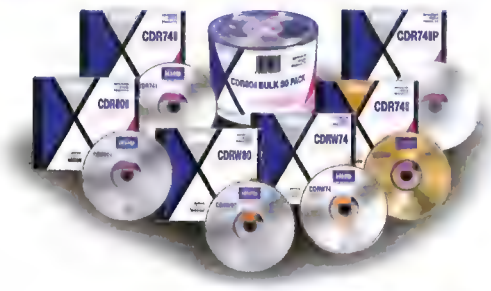
Life on the road can be tough, so only one CD Recorder makes the trip with the TEC Award winning Record Plant Remote: The HHB CDR850.

Pictured: Record Plant Remote Owner and TEC Award winning Remote Recording Engineer Kooster McAllister.

IN THE STUDIO..

London's Town House Studios is home to some of the most memorable hit records to come out of the UK. It's also home to 7 HHB CD Recorders.

Pictured: Virgin Studios Director Ian Davidson.



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FIRST WE LISTEN

in brief

MP3 station

FastTrak, the makers of eJay, have developed a utility for the budget loop-based sequencer, the eJay MP3 Station Plus, dealing with all things MP3. As is usual for eJay software, it will cost you a penny short of £30.

Also new from Ejay is their Sound Collection Volume 2, with 7,500 brand new royalty-free samples in WAV format. The collection includes dance, trance, house, d'n'b and more, plus 150 R'n'B vocal samples and a reggae/Afro section featuring sounds made with central African instruments – and it's a steal at only £19.99.

More from: FastTrak

Tel: 01923 495 496

Web: www.fasttrak.co.uk

On the FastTrak to success: the eJay MP3 Station Plus

New patchbay

Signex have redesigned their Isopatch Bantam patchbay. It now offers 25-way D-sub connectors wired to the Tascam DA38/88 pattern, so wiring looms can be made up separately, then plugged in on-site. The 1U front panel has 96 enclosed bantam jacks with spacing to accept twin 'stereo' plugs. All components are mounted on two horizontal printed PCBs, giving full access to most of the circuitry, including parallel points and their special 'program pads' for normalising – so there's no need for tedious hard-wiring. Hurrah!

More from: Isotrack

Tel: 01202 247 000

A friendly spirit

Spirit's Digital 328 console, complete with new AES/EBU interface, has found its way into the programming suite of producer/engineer Neil McLellan. McLellan, who has worked with the Prodigy, Erasure and Sasha, first encountered the 328 when on a mixing session at DJ Sasha's studio in Henley and was instantly impressed by its user-friendly nature. "That's normally your first concern when using digital consoles," he said, "but no such worries here – I had the desk mastered in an hour."

Neil's 328 has been put to work alongside his Pro Tools MixPlus system providing the high-quality analogue front-end that he needs, as he pointed out: "Being able to bounce 24-bit audio through all paths is really a major advantage for me in the pre-production and programming phase".

Frankfurt News
continued from page 8

Super sounds on show

Novation launched the Nova II and Supernova II keyboards at AES Paris and followed this up with the Supernova II rack units in Frankfurt. Like the keys, the rack comes in three guises – the standard R, R Pro and R Pro X. Top of the spec sheet for the new models is an enhanced version of the ASM synthesis engine, incorporating comprehensive FM synthesis and dual filter algorithms. Also, look out for a low-cost silver keyboard from Novation later this year – the new synth should be around the £400 mark with 6-8 voices, and as yet, doesn't even have a name…

Access Virus has a loyal and growing user base who will no doubt be happy to hear that Version 4 of the OS is now available, and any Virus B will take the upgrade. It also comes pre-packed into the Access Virus Indigo, which looks like it's stepped straight out of the future – Terminator stylee. Features include a Mod Matrix and a Groove Delay, and a tap-rhythm style feature much like that found on TC's D•Two. Tasty! V.4 also supports surround sound via six outs (!), and hopefully will hit the shelves at under a grand.

JoMox, kings of the analogue frontier, take a step into the world of binary with their new synth, the Sunsyn. With familiar styling to the acclaimed-yet-limited XBase09 drum machine, the Sunsyn has heaps more knobs for all-important 'hands-on' control. And, interestingly, it features hybrid synthesis with two analogue oscillators and a digital oscillator as well. World… of the strange…

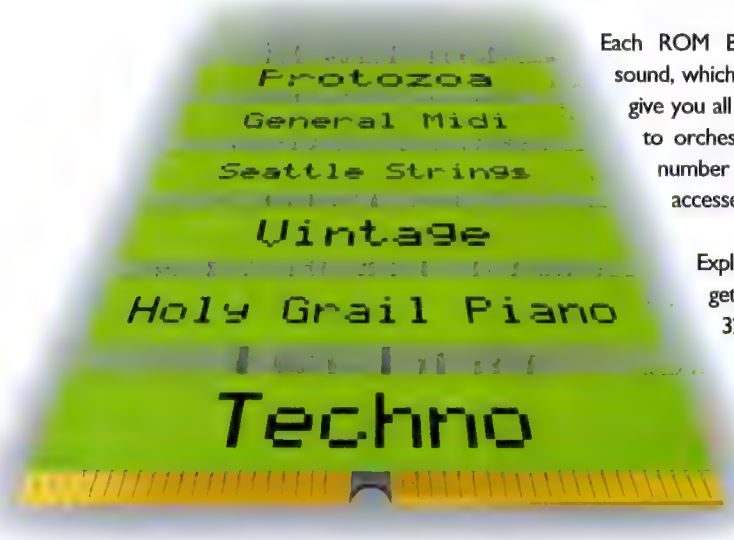
The tasty new features on Access' Virus synth include Mod Matrix, Groove Delay, and 'tap' rhythm feature

Waldorf announced the 'Q' Rack, with a price tag of £1,199 and – like most Waldorf gear – it sounds pretty cool. And apparently the problems with the keyboard version's OS have been cleared up for the rack. The Q Rack is 16-part multitimbral, has six outs and two ins, with 27 stopless knobs and 45 buttons for precisely one shedload of control.

Expansion is on the cards

We've dealt you a great hand

Proteus 2000 can be expanded to have a total 128 MB of sounds, using ROM Boards from the ever-expanding library, dropped into one of the four slots available (we've already fitted the excellent 32 MB 'Composer' board for you).



Each ROM Board offers high-fidelity, uncompressed sound, which can be layered, filtered and processed to give you all the sounds that you need - from hip-hop to orchestral. SoundNavigator allows this massive number of presets to be easily tamed and instantly accessed.

Exploit all 32 ultra-fast response MIDI channels to get tight-tight timing with Proteus 2000's 32-bit processor. Instantly save and recall your Multimode setups, so all 32 channels of your preset, volume and panning data are just a couple of clicks away. Use the 12 real-time controls (three banks, four knobs) to tweak your sounds instantly - without touching the edit buttons.

And there's much, much more....stereo digital output plus six analogue outputs, dual 24-bit stereo effects processors, 6th Order filters (17 different types), up to four sound layers in each preset and the ability to use samples saved to Flash ROM on an E-MU® Ultra Sampler.

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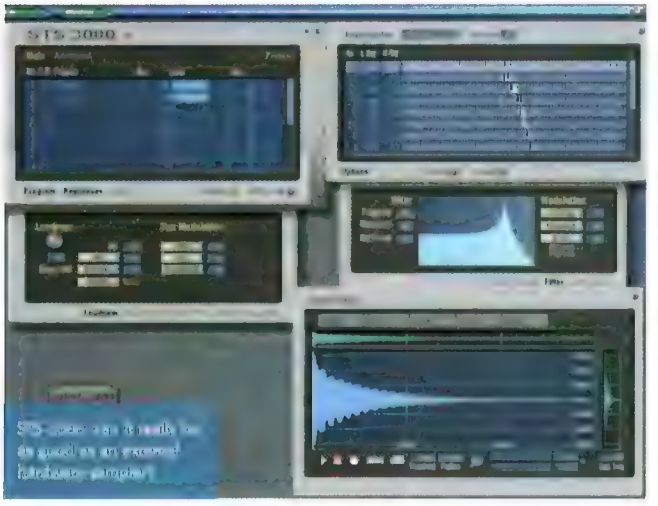
They got the poison

CreamWare's catalogue of add-ons for the acclaimed Pulsar card grows again, with new sampler and FM analogue synth…

Two new Pulsar/SCOPE plug-ins are now available in the CreamWare Online Shop: the STS-3000 sampler and the Poison FM/Analogue Synthesizer. The STS-3000 is based on the existing STS-4000. It features a Multi mode with up to 16 programs, a graphical sample editor, filters with resonance and a modulation matrix. Creamware have included support for most major sample libraries, Akai, WAV, AIFF & Soundfont 2. The STS-3000 can record samples and a resampling function is also available. This uses the Pulsar's DSP, so you can play the STS-3000 just like a hardware instrument. Giving 32 stereo voices and six internal individual outputs to route into other devices or physical outputs, the STS-3000 is a very appealing alternative to external hardware samplers.

The Poison synth has been designed to combine the digital sounds of FM with the warmth of analogue. Although the choice of colours makes it look quite garish, its 80+ preset sounds are extremely good. The core



of Poison is FM synthesis using one carrier and two modulators. But instead of sine waves, Poison uses a multimode oscillator and a polyphonic LFO, which can track the keyboard-like pitch of the oscillator. The sounds can be manipulated using the fully-modulatable 2-pole analogue filter, and both the multimode oscillator and a noise generator can be combined with the FM sound. Add to this the fact that Poison has an audio input that can be used for additional signal source modulation, and you start to see that some pretty complex sounds can be created.

Pulsar users can download the entire plug-in range from the Online Shop, and the plug-ins come with a temporary activation key that allows you to fully test them for ten hours. Try before you buy, indeed…

Prices: **STS-3000 £126; Poison: £57**
More from: **www.creamware.com**

Frankfurt News
continued from page 14

System 6000 processor unveiled

There was a buzz around the TC Electronic stand, where they were finally demonstrating their latest flagship processor, the System 6000. Select audiences were whisked into the demo room for a quick tour around the 6K's 5.1 capabilities. We look forward to getting our hands on one ASAP…

The SPL stand was full of curious types checking out the Atmos 5.1, a chunky-looking unit that looks pretty damn handy for capturing room ambience in 5.1 for the rapidly-expanding surround generation. Also look out for an updated Qure EQ.

Pure Distribution's 19 range is now ready to ship, and we bumped into them at Frankfurt clutching what looked like a worthy addition to the range – the MXLV67, which (in case you can't guess) is a large-diaphragm condenser mic with a projected retail of £249. We'll check it out soon.

Focusrite were showing off their new MixMaster rack unit, dedicated to 'stereo spectral dynamics and EQ'. Stereo inputs, multi-band opto-compressor and stereo 3-band EQ combine to provide a tidy box for those mastering applications. And as for the width control… feel the girth!

Tidy Trax remix winner!

After much deliberation by the judges, the winner has been picked from a long and distinguished list of hopefuls, all wanting the Tidy Trax treatment for their remix. And the winner is... **Paul Clifton from the Midlands with his Hijackers Remix!**

So well done, Paul, and look out for a rundown of runners-up and a few words on all the entries we received next month...

Also in the world of Tidy Trax, Paul Janes, the chief engineer who featured in our story, has since left to set up a new label with veteran hard house producer Paul King. "I wanted an outlet for my productions," Janes told *The Mix*, "to show what I could do as a producer. I'd worked with King before on the recent *Trauma* EP for Tidy, and it was clear we worked well together." The new label is called Overdose and will feature a release every three weeks, kicking off with Terrance Phillips' (King+Janes) 'We Make The Bass/Red Alert' on 15 May.

The voice of Reason

With Reason, choose the units you want and drop them into your virtual rack

Propellerheads, the software team that unleashed ReBirth onto an unsuspecting (yet wholly appreciative) retro-crazed world all those years ago are at it again. Reason is their latest offering, and it looks set to create massive waves in the world of software-based music applications.

Reason is a complete package – and we mean *complete*. The system comprises different units that can be dropped into the virtual rack to create your own system. Select mixers, synths, matrix-style sequencers (as well as more traditional style sequencers), samplers, REX-file players, drum machines and effects.

Now you might think that sorting all the ins and outs would be a nightmare, but simply hit a key and the whole rack flips round to reveal the back panels of all the units where connections are made. Most connections are made automatically (and logically), but you can re-patch as you wish by simply dragging cables to a new destination.

And in case that's not flexible enough, Reason's outputs can be routed into any ReWire-based software, so you can mix it into your arrangements or add other ReWire applications into it, such as the perennially popular ReBirth.

Frankfurt saw the launch of Reason and if you think it looks amazing, wait till you hear it! The demo had five soft-synths and six soft-samplers running, all sequenced with effects on top to produce a mighty impressive dance tune that left the assembled audience in awe – and the price tag on all this power? Looks like coming in around the £350 mark. Oh yes – the age of Reason is well and truly here!

More from: Arbiter
Tel: 0181 970 1909

Connections are made 'round the back, logically!

in brief

Big sound, small package

The MXL600, from the pro audio division of Marshall Electronics, is a new condenser mic in a miniature body with the dual qualities of a large-diaphragm condenser and a small instrument mic. MXL say the mic is excellent for guitars, piano, snares, toms, cymbals and, with the use of a pop filter, vocals. We'll be putting those claims to the test in a forthcoming review...

More from: Pure Distribution
Tel: 020 7328 0660
Web: www.pure-distribution. com

You can't resist it

Good news for all you soldering addicts: Maplin have radically redesigned their bi-annual electronics catalogue. The April edition offers price reductions for the technical helpline and £50 worth of vouchers and comes in 'traditional' or CD-ROM format, the latter of which includes a comprehensive search facility to help you locate the capacitor that would have otherwise got away...

More from: Maplin
Tel: 01702 554000
Web: www.maplin.co.uk

Upgrade for ddrum

Acoustic triggering supremos Clavia have upgraded the software for their ddrum 4 system, now at version 1.40. At the same time, they are offering their new Mega Drumkits sound library free of charge to all ddrum 4 users. Get it from their website at www.clavia.se.

Why use Digital Performer's effects automation?

MOTU

Upgrade to Digital Performer for only £199.00 if you own... Cubase • Logic • Vision • Deck Pro Tools • Notator/Creator Cool Edit Pro • BIAS Peak Cakewalk Call for details

1. **Beat/tempo-based automation.**
Automate plug-in effects in perfect time with your music, from filter sweeps that land on downbeats to multitap delays that echo in triplet 8ths. Your beat-based effects always stay in rhythm, even through meter and tempo changes. You'll never waste time wondering things like, "how many milliseconds is a 16th note at 126 bpm, anyway?" Rhythmic effects are now just a few clicks away.

2. **Sample-accurate ramp automation.**
Digital Performer's plug-in automation isn't a kludge — it calculates true ramps in 32-bit floating point glory. And it's sample-accurate, not quantized to buffer boundaries, so you'll never hear weird artifacts or zipper noise in your audio. Instead, your moves will be as smooth as silk...

3. **Discrete events and stair-step automation.**
Some effect changes are discrete events, like changing an LFO from a sine wave to a square wave. Others require a stair-step approach. Digital Performer has all three: ramps, events and steps.

4. **Graphic editing.**
View all automation data directly on the audio waveform. Work fast with descriptive icons and convenient control points.

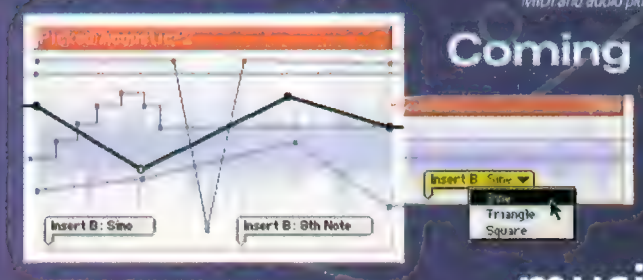
5. **View all automation data at one time.**
Clearly view all automation data at one time. Easily control the interaction of multiple FX parameters.

6. **Units of measurement that actually make sense.**
Digital Performer's automation data is always displayed in the correct unit (like milliseconds or percent), instead of arbitrary number ranges like other programs. (0-127, yipee!)

7. **Five advanced automation modes.**
Tweak your heart out with advanced automation modes like Touch, Latch, Overwrite, Trim Touch and Trim Latch. Want to bypass the effect? You can automate that, too.

8. **Mackie® HUI™ support.**
Tweak FX parameters in real time with real knobs. Record your moves. Feel the power.

Digital Performer includes more than 50 automatable MIDI and audio plug-in effects.



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Get discovered

Last year's winners with their big fat cheque

Have you sent in your entry for this year's *Undiscovered Originals* competition yet? If not, you still have just enough time to get in there – with the chance to take your music to the stage and win £5,000 of new gear, plus a day in a pro recording studio. Full details and an official entry form are in last month's issue of *The Mix*; alternatively, we'll send you the form if you send your name and address to: *Undiscovered Originals Entry Forms*, 30 Monmouth St, Bath BA1 2BW. But hurry – the contest closes on 9 June.

Sponsored by Miller Genuine Draft

Win loadsa cash!

"The hunt is on for men and women in the world of music and performing arts who will help shape our future". So say British Gas, and they're prepared to put their money where their mouth is. Enter their Tomorrow's People competition and you could find yourself pocketing £5,000 cash (just think of all the studio toys you could buy for that kind of wonga...) For more information check their site (www.gas.co.uk/tp.) Closing date for entries is 13 June 2000, and applicants must be UK residents aged 18 or over. Good luck!

Musicals go d'n'b

Want to get involved with British contemporary musicals? Before you think 'boring', read on: we ain't talking Andrew Lloyd Webber here. London's Theatre Royal Stratford East is looking for music producers, writers and composers for their second Musical Theatre Workshop, which teams up-and-coming talent with established artists to produce "lively, innovative musicals with house, R'n'B, triphop and drum'n'bass influences". The workshop is free and takes place from 3-28 July.
More from: 0181 534 7374 (xt. 230)

in brief

More for your money

74 minutes not enough for your masterpieces? Then you might want to get your hands on HHB's new CDR80 Silver range of bulk-packaged 80 minute CD-Rs. They come supplied in unbranded 50 disc packs, are fully Orange Book-compatible and cost exactly the same as HHB's 74-minute Silver discs.

More from: HHB
Tel: 0208 962 5000
Web: www.hhb.co.uk

Goodies galore

HHB's annual catalogue (aka 'The Industry Bible') is with us once again. The 2000 version is available both in print and online (with a database searchable by product type), and offers detailed information and prices for more than 1,400 products from 150 manufacturers. New sections include Hard Disk Recording and Video and Surround Sound.

More from: HHB
Tel: 020 8962 5000
Web: www.hhb.co.uk

Frankfurt News
continued from page 16

Classic compressor 'improved'

US-based Mercenary Audio thought they could improve the sound of Drawmer's 1960 tube compressor. The result? The 1969

And how busy have Creamware been? Er... very, by the look of it! The Pulsar II was on display featuring 50% more DSP than its predecessor, and I/O are situated on a daughterboard allowing the user to choose various interface units. The basic configuration comes with stereo analogue, stereo S/PDIF and two Adat ins. Naturally, 24-bit/96kHz converters are used throughout. Also look out for the Luna 2496 DSP later this year, an audio I/O interface system for PC and Mac with external A-D/D-A breakout box.

Still at Creamware, SCOPE/SP combines 15 SHARC DSPs, a PCI card and a software package that takes care of synthesis, sampling, FX and mixing. The system can be used as a giant plug-in with any sequencing or recording program due to a complete driver set, or as a standalone system within your computer. And taking things to the hardware side, how about the Stage Frame One, Creamware's fully-fledged synth with a PC inside? It can be loaded up with a variety of synthesis configurations – much like the Pulsar – and then used like a traditional hardware keyboard. For easy control, there's a touchscreen and 14 knobs. Watch this space...

Lexicon were still wowing the crowds with their 960L flag ship FX box, but also on show was the MP100 daughterboard for the Core 2 system, enhancing what is already a quality FX system for PC, featuring 24-bit true stereo, dual-channel processing.

Drawmer had the new 1969 Mercenary Edition of their legendary 1960 tube compressor on show – and very sexy it looks too! Basically the Mercenary team thought they could make the 1960 sound better (with a few adjustments for a more 'American' sound). So Drawmer graciously agreed to have the Mercenary boys tinker with their classic comp, and the 1969 was born! We can't wait to get our hands on one...

Touched by Sound, the makers of the knob-laden DRM1 Analog Drum Machine, were showing off a very slick looking new synth, the 6-voice Mephisto that boasts true analogue throughout. As yet a single prototype exists, but full production looks imminent.

Competition

WIN! A Yamaha A4000

Yamaha's brand-new feature-packed A4000 sampler, worth £999, is up for grabs

When it comes to sampling, there's never been a bigger choice available, with manufacturers falling over themselves to pack in even more features for even lower prices. Yamaha may not have been the biggest name in sampling in recent years but they are determined to be ahead of the pack with their latest hands-on models, the A4000 and A5000.

In our review in issue 73, Jon Musgrave came to the conclusion that: "Both feature-packed samplers sound great, but the A4000 wins by a nose thanks to its value for money." But nevermind value for money, here's your chance to get it for free!

Here's the lowdown on some of the fabulous features on the A4000:

- 64-note polyphony
- 4 stereo outputs (expandable to 10)
- 4Mb of RAM (expandable to 128)
- 6 different sampling frequencies
- 96 fully-editable effect types, including reverb, delay, chorus, flanger, wah, distortion, rotary, auto-pan and gate
- 16 filter types
- Amplitude, pitch and filter envelope
- MIDI-clockable LFO with choice of four waveforms
- 2 separate MIDI continuous controller set-ups
- Compatible with E-mu, Akai and Roland sample libraries, AIFF and WAV files
- Data backup to CD-R and CD-RW
- Real-time hands-on control from front panel

To be in with a chance of winning this state-of-the-art sampler, answer the 'brain-taxer' and 'tie-breaker' questions below and send your answers along with full contact details (including address and daytime telephone number) on a postcard to: *Yamaha Sampler Compo,The Mix*, Future Publishing, 30 Monmouth Street, Bath BA1 2BW. Entries must be received by 1 August 2000.

1. Brain-taxer

The Yamaha A4000 has:

(a) A battering RAM
(b) 4Mb of RAM
(c) 4 ewes and a RAM
(d) A big-wheel Dodge RAM
(e) Geno Washington and his RAM Jam Band

2. Tie-breaker

Choose your favourite sample from *The Mix*'s *Sound Factory* series and explain in less than 50 words why it's simply the best...

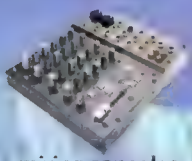
The Rules

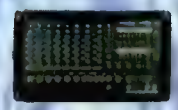
1. Employees of either Yamaha or Future Publishing, or their relations are not allowed to enter.
2. One entry per reader. Anyone sending multiple entries will be made to stand in a corner and listen to Chris Kempster singing.
3. The editor's decision is final. No correspondence will be entered into.

PHONIC

the performance standard

With the introduction of the new Phonic MM series, professional quality mixing is now possible on a compact size mixer. Ranging from 2 to 6 mic inputs, the MM Series is specially designed for audio applications ranging from a PC-based audio workstation to a main sound system mixer.


mixing consoles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power amplifiers

signal processors

loudspeakers

dj mixers

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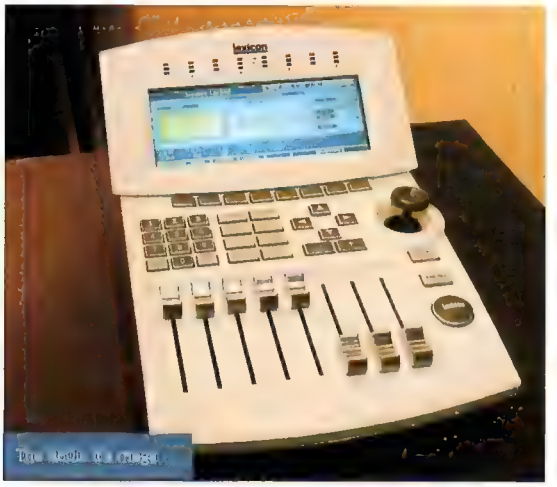
Preview

Lexicon's wonder-FX

By now you will have tuned into the buzz about Lexicon's new 960L. Last month, we had the opportunity to try it out first-hand...



First previewed at February's AES show in Paris, the 960L is a completely new design from the ground up, featuring Lexicon's new software algorithms based on '3D perpetual modeling'. As you may have guessed from the name, it operates at 24-bit/96kHz, but outclasses its predecessor, the 480L, on every front. Eight inputs and outputs (both in analogue and digital format) come as standard, and the remote control has experienced a major facelift.

Using Windows CE as its software, the new LARC2 (Lexicon-speak for remote control) features loads of onscreen info, a multi-purpose joystick for sound placement, and eight motorised (yes, motorised) faders. If you do have to go anywhere near the 4U rack case, you'll see plenty of room for system expansion in the future.

So why the need for so many inputs and outputs? It's quite simple: configurability. The 960L can be used as four stereo in, stereo out processors, or a single five-channel in, five-channel out processor, or a mixture of these configurations. And in case you're wondering, the Lexicon software team is lovingly recreating all those favourite 480L presets, except now they're even quieter. It sounds amazing, especially the true 5.1 effects, and will set you back a not unreasonable £10,995 + VAT when it becomes available later this year. • *Jon Musgrave*

Frankfurt News

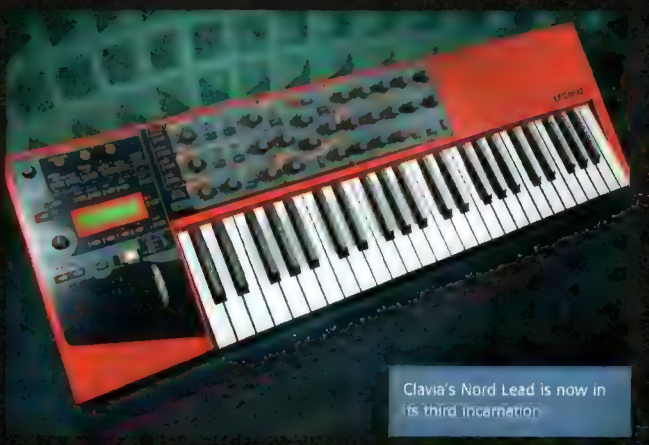
continued from page 19

Sampling takes another step

Clavia give the Nord a new lease of life with the release of the Nord Lead 3. 20-voice polyphony, adjustable Unison without losing voices and an upgraded modulation section with up to three LFOs per voice add to the features. Once again, those stopless rotary knobs are in abundance atop the familiar red casing of the Lead. And a little something extra in the shape of the Nord Electro, dedicated to the classic sounds of yesteryear featuring electromechanical organs and pianos such as the B3 and Clavinet. The Electro, like the Lead 3, comes housed in a 5-octave keyboard.

And while on the subject of retro sounds, Native Instruments have developed the B4 – a VST-based tonewheel organ with some clever programming that won't cane your CPU. And it sounds pretty good too, as far as we could tell over the background noise of the show.

Hmmm, those clever Roland chaps seem to have been developing a new type of sampling technology – and about time too! The VP-9000 looks like causing a mini-revolution in the sampling arena, offering new features to a fairly predictable area of music production. For example, say goodbye to multisampling, with the VP's formant-shifting making it possible to play back a single sample across a wider range of keys while retaining the original sample's tone, envelope, and tempo. It can also instantly match multiple audio phrases with different keys and tempos to a new user-defined key and tempo. Two chunky workstation-like models using the same Variphrase technology, the VA-7 and VA-5 are also imminent. Scary? We think so. It'll be in the mag and on the shelves soon...



Clavia's Nord Lead is now in its third incarnation

The NI stand was also showing Dynamo, a customised version of their Reaktor soft-synth, featuring 25 preset instruments to take the headache out of programming.

Over at TC Works, Spark was looking pretty hot with the new Spark Modular VST instrument – an optional virtual synth that runs either in Spark or independently of it. All the essential components are available, but the power comes from its open-ended design, meaning third-party VST instruments or plug-ins can be loaded into the matrix as well.

10 XDR MIC PREAMP CHS • 4 STEREO LINE CHS • 4 SUBS

The 1642-VLZ PRO: midsize luxury for a compact price!

10 XDR™ mic preamplifiers (on Chs. 1-8, 9/10 and 11/12 – all mono) with the finest sound quality (and specifications) ever on a compact mixer. 0dB to 60dB gain range.

75Hz low cut filters on all 10 mic channels. Sharp 18dB/oct., phase accurate circuitry cuts infrasonics caused by stage rumble, wind noise and P-pops.

Sweepable midrange EQ on Chs. 1-8 with incredibly wide 100Hz-8kHz sweep range. Fixed shelving HF EQ at 12kHZ and fixed shelving LF at 80Hz.

Overload and ultra-sensitive, –20dB **Signal Present LEDs** on every channel.

4 aux sends per channel. Auxes 1 & 2 are pre/post switchable; Auxes 3&4 are fixed post-fader.

4 stereo line inputs. Unity summed w/mic-in Chs. 9-12, ±20dB Chs. 13-16.

8 mono line inputs (Chs. 1-8), with +15dB to -45dB gain range. **Bal./unbal. direct outs** on Chs. 1-8.

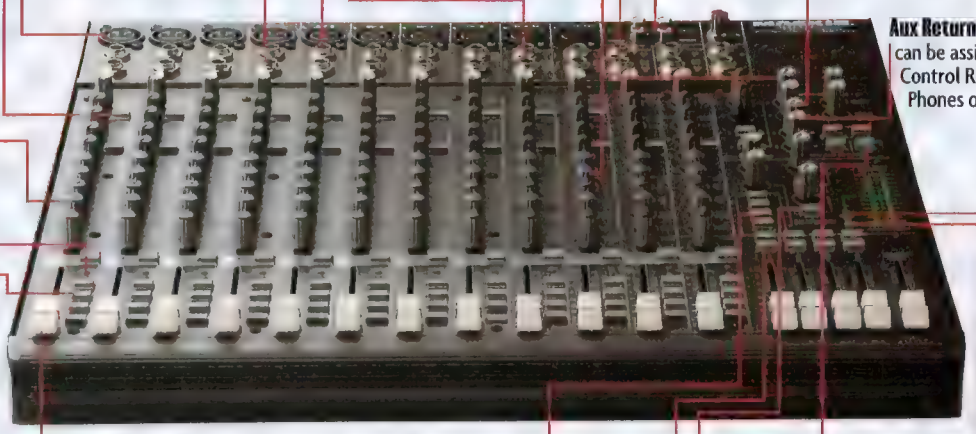
Inserts on the first 8 chs.

Effects to Monitor controls on Aux Returns 1 & 2 let you fold EFX back into stage monitor mixes independent of main PA.

4-band EQ on Chs. 9-16. With 12kHz HF, 3K Hi-Mid, 800Hz Low-Mid and 80HZ LF.

RCA inputs and outputs with tape input level control.

Aux Return 3 can be assigned to Main Mix or Subs 1 & 2 or 3 & 4.



Aux Return 4 can be assigned to Control Room/ Phones only.

60mm logarithmic taper faders with ultra-long-life resistance elements provide linear volume change from full-on to - ∞.

On the back: Direct outs (Chs. 1-8, bal./unbal.), TRS mono-main output with level control, XLR stereo main outputs with recessed mic/+4 line level switch.

Control Room/Phones Section with separate headphone and control room level controls. Source Matrix selects any combination of Main Mix, Subs 1 & 2, Subs 3 & 4 or Tape for exceptional studio monitoring flexibility. Also lets you create a third live stage monitor mix or separate feed.

True 4-bus configuration with Ch. and master LR assigns. Each bus has 2 outputs, letting you hook up all 8 Chs. of a recorder without constant repatching.

Master Aux Return Solo switch.

Tape to Main Mix switch.

RUDE solo LED in bright ecologically-correct green.

Level-set LED + channel strip in-place stereo solo buttons make initial level setting fast and accurate.

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You asked. We listened.

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Recording: The new 1642-VLZ PRO gives you the finest mic preamps ever offered on a compact mixer. Two dedicated channels for tracking. Eight for monitoring. And two stereo channels for effects. Plus "double-bussed" submix outputs so you can feed all 8 channels of your recorder without having to re-patch.

Live and Alive: Mixers aren't always sitting calmly on the side of the stage anymore. Often, they're out front. They're instruments. The 1642-VLZ PRO has plenty of mic inputs for vocals, guitars and drums - plus 4 stereo channels for DJs and Keyboards.

Visit our web site for complete information on the new midsize luxury 1642-VLZ PRO. Learn why it's the best compact studio or live sound mixer (and rip-roarin' Electronica sound collage board) on the planet.

No user-serviceable parts in this footnote.

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Too close for comfort
Have you ever gotten so close to the production of music that you lost the capacity to enjoy it? Is there such a thing as music overload?

Dying breed
With the ever-increasing capabilities of budget gear and the blurring lines between artists and producers, are pro studios in danger of becoming obsolete? And are they their own worst enemies?

Fiddle freaks
What's your most annoying studio habit? Do you spend so much time tweaking your sounds or striving for perfection that you never actually finish a track?

Write to us:
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Bath, England
BA1 2BW

Or email us:
themix@futurenet.co.uk

Bring back *Petsounds*

I've often wondered what it took to produce so many of the hits of our time – I'm not necessarily talking about 'pop' music though. Would it be possible to consider the coverage of such a topic on a monthly basis? For example, what gear was used, where it was recorded, and so on. One is often used to a musical analysis of a particular song – how about an engineer's perspective?

Another possible idea (just brimming over, aren't I?) is a summary of gear reviewed over the years, in their respective categories (samplers, equalizers and so on). Please, not the all-in-one 'equipment buyers' kind of catalogue, but rather spread out over the year with useful cons, pros and lovely colour pictures thrown in.

Clyde September, Cape Town

We'll be happy to revive our Petsounds series, but first you lot have to tell us which tracks or albums you want to know about. So get writing in with your requests to: Petsounds, The Mix, at the usual address. Serious suggestions only, please – we hope that the bloke who wrote in a few months back wanting to know about the recording of The Piper at the Gates of Dawn has sought appropriate counselling…

Andrea Robinson

Has the pursuit of this become more important than good tunes?

Page 3 producer

Working as a producer for many years, I have come to appreciate the importance of interesting and diverse visual stimuli in the studio. To this end, I have always preferred to work in a studio with a window. However, having seen your recent news column piece (issue 75) on Brighton-based dance duo Phats and Small, I have seen the metaphorical light and believe a change is now in order. I plan to board up my windows and adorn my speakers and racks with such titillating delights as are on clear display in the picture of 'Phats... relaxing' at the bottom of page 9 (look at the speaker to the left of Phats). Whether or not this experiment will deliver chart success remains to be seen, but I feel it my scientific duty to find out.

Alex James, by email

You are, of course, referring to the Page 3 lovely pinned to Phats and Small's speaker – no doubt a constant source of inspiration for the boys. However, this use of visual stimuli in the work environment is not a new concept – garages have known for years that a strategically-placed swimsuit calendar can increase the productivity of their mechanics by up to 20%. In the face of this and other scientific research we have initiated a trial in The Mix office to see if this works for journalists too – we'll let you know the results as we have them…

Chris Kempster

A step in time

Just a note to say thanks for choosing my missive for *Letter of the Month* (issue 73). While I'm in writing mode, I'd like to comment on Andrea Robinson's reply to Dimitris and his Greek music conspiracy theory (issue 75). Andrea cites the session bass player who finds he is too close to the music to make a sound judgement of it. I was prompted to wish, "if only Steps had been named StepzBak2ReKonZidR". Oh well, one can dream…

Gary Hawtin, by email

When you spend days locked in a studio, with only cigarettes and alcohol for sustenance, it's quite possible that you may lose a certain sense of

perspective, and it's a danger faced by many producers these days. I don't know about Steps, but clearly William Orbit has succumbed to this syndrome, what with his trance version of Barber's 'Adagio for Strings', and Madonna's 'American Pie'. Clearly this man has been locked in the studio for far too long – maybe some of his fellow producers should get together and rescue him in a dawn raid a la the FBI's snatch of Elian Gonzalez...

Chris Kempster

Steps: three girls, two boys, zero talent?

Snob value

Call me a music snob, but most of the formulaic dance music that is churned out each day in the pursuit of riches is shite. What happened to doing music because you love it? Dimitris' last letter (*The Mix* 75) echoes my sentiments exactly. The commercialism of today's music has taken too much of the 'heart and soul' out of the industry, and made people concentrate on how much money the next 'hit' will make rather than the actual content of the song.

Martin Hughes, York

You're a music snob, Martin. There's always been formulaic music designed to make money, and there always will be. The thing to do is to go out and produce something better...

Chris Kempster

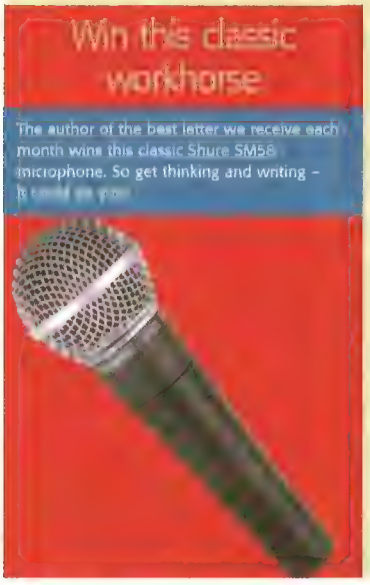
letter of the month

Kill the melody, turn up the bass

At the risk of completely boring *The Mix* readers, I felt compelled to respond to Mr Williams' comments in last month's issue as I think despite his good intentions, he seems to have gotten off the subject The question proposed by *The Mix* was "Is the acoustic guitar test still valid?" Ironically, despite his attempts to undermine my arguments on the grounds of credibility, Mr Williams' response did largely support most of my comments, which leads me to believe that my observations were not far off the mark. In short, the issue is one of the longevity and relevancy of a song and its relationship to the quality of music, irrespective of whether it contains vocals or not, and Mr Williams seems to agree with this notion. Dare I say (at the risk of receiving even more abuse from Mr Williams), that bands like the Prodigy (who I quite like, BTW) and the Chemical Brothers are already dangerously close to becoming irrelevant in the overall scheme of things and the acid test will be to see if any one can hum the opening bars of 'Firestarter', for example, in 10 years' time. Highly unlikely! That's not to say it's not good music... it's just not a great song!

My point is simple. Great songwriters are to be cherished and applauded as they are rare, and despite the fact that I am last person to discourage 'bedroom' musicians to strut their stuff, let's not overstate the importance of this genre of music. Whether you want to call it electronic production-based music, computer music, sample-based music, or whatever, I am afraid to say that little of it will survive the test of time. Sorry. I do agree that pop/chart music was never about playing live, but let me point out that my observations and comments with regard to the UK scene were simply that of an outsider looking in at what appears to be an imbalance towards 'too much of a good thing'. (The recent Brits awards are a case in point. Weren't you embarrassed?) Most guitar-slinging songwriters that I come into contact with have yet to discover the power of modern music production (and perhaps the internet) and my hope is that when they do, more diversity and talent makes it through as a result. I agree that the UK, should/could (as it has always done), lead the way and this obviously needs to start from the top down before the rest of the world witnesses the brain death of a nation, in what used to be the home of the modern music revolution.

Barry White, New Zealand



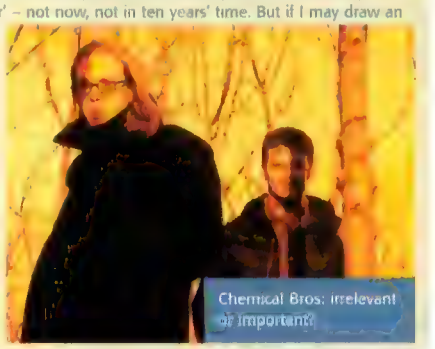
Let's get to the heart of this ongoing debate: what do we really relate to about music? And is our appreciation of music intellectual or physical? I would suggest that judging the quality of a song by its 'hummability' is a little outdated. We are now blessed with the kind of technology that can bring recorded music up to the physical, sensory level, where *sounds* and the right combination of sounds and rhythms have the power to thrill and to mesmerise and to reach out and get right into your blood. On this level, today's music production wizards are dealing with a helluvalot more than the conditioned response to certain combinations of notes that we call 'melody' or the conditioned response to certain combinations of bars that we call 'arrangement'. They use their tools and their imaginations to create sonic experiences that go beyond what even the most talented 'songwriter' can ever hope to achieve (in fact, a 'good melody' would kill some of the best tracks of recent years) and even the cheapest of hi-fi systems can play back these masterpieces with amazing volume and clarity.

No, I don't suppose you could hum the opening bars of 'Firestarter' – not now, not in ten years' time. But if I may draw an analogy, asking someone to do so would be like handing them a packet of crayons and a sketchpad and asking them to use these recall the experience of looking at an original Van Gogh

So it's quite ironic, isn't it – modern technology is enabling us to get back to music on a primitive, instinctive level – just as long-lost tribes did when they danced all night to pounding, repetitive rhythms. Sound familiar, all you clubbers in da house?

Of course the sonic-driven masterpieces produced by the likes of Liam Howlett and his contemporaries will sound dated as production tools and methods of playback become ever more sophisticated, but that can only be a good thing. Imagine what's in store for us, for example, if and when surround sound takes off as a music format. I for one can't wait

Andrea Robinson



Chemical Bros: irrelevant or important?

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Who tests the gear

Our team of equipment reviewers are all audio industry professionals, experts in their chosen fields – engineers, producers, remixers, musicians and software specialists. This means that you can trust the opinions expressed in our reviews.

How the gear is tested

Wherever possible, the gear we test is used in actual sessions. Indeed, some of the biggest-selling records this year will have acted as testbeds for our reviewers. We believe that to truly evaluate kit properly, it needs to be tested in studio conditions – not a dark room!

Impartiality

Reviews in **THE MiX** are in no way biased towards certain manufacturers. We will deliver an impartial verdict on a product whether or not a manufacturer advertises in this magazine. Our first duty is to you, the reader, and our goal is to give you the best possible advice on buying equipment. We will not hesitate to expose sub-standard equipment.

THE MiX EDITOR'S CHOICE

Products that are judged to be outstanding by our reviewers are awarded the 'Editor's Choice' tag. In a standard review, this means that the product offers exceptional performance for the price it retails for. In group tests, there may be two awards – 'Best Performance' and 'Best Value'. The 'Best Performance' award will go to the product that offers the best performance irrespective of price, while the 'Best Value' award will go to the product that offers the best price/performance ratio.

The Mix reviews team

Alan Branch
Producer/engineer/remixer and part of London's famed On-U-Sound production team, Alan's recent credits include Primal Scream's *Exterminator* album. He's currently working on a remix for Nine Inch Nails

Adam Crute
Adam manages *The Mix*'s in-house recording studio and masters our cover CD every month. A dedicated fan of PC-based music software, mere mention of the word 'Mac' brings tears to his eyes.

Trevor Curwen
Engineer/producer and retro fiend Trev was the man behind the desk on some of the best albums of the '90s, including Portishead's *Portishead* and Spritualized's *Ladies and Gentlemen We Are Floating in Space.*

Steve Evans
A Bath-based freelance engineer, producer and songwriter, Steve learned his craft both on the road and in his own 16-track commercial studio. His most recent project was a remix of M's 'Pop Muzik'.

Adam Fuest
His production credentials take in film soundtracks and acts such as Drugstore and indie band Astrohound. Adam is based 2,500 feet up in the Brecon Beacons, where he runs his own Twin Peaks residential studio.

David Harrow
Producer and keyboard player David has appeared on albums by Lee 'Scratch' Perry, Dub Syndicate and Jah Wobble. His alter-ego is drum'n'bass guru James Hardway – expect to see a new album this June.

Jon Musgrave
A house engineer at London's Roundhouse studios, Jon's diverse credits include Culture Club, Beverley Knight and Mercury Rev. He recently engineered the Mike Spencer remix of Queen/Bowie's 'Under Pressure'.

Tim Oliver
Tim began his career in 'Madchester' where he produced early demos for The Stone Roses. He went on to notch up credits with Gene, M-People, New Order, The Happy Mondays, and most currently, Indigo Girls.

Seb Pecchia
Seb earned his spurs as a house engineer at Peter Gabriel's Real World studios. Now in the process of kitting out his own top-notch studio near Bath, Seb will shortly be releasing an album under the moniker 'Snowhill'.

Sean Vincent
Having started his career as a tape-op at Matrix studios, Sean has gone on to carve out a successful, and varied, career as a studio and live engineer. He's ridden the faders for Five, 911, Adam Rickett and The Honeyz.

reviews

It's been hyped, it's been misunderstood, now you can finally read the truth about Nuendo, Steinberg's brand new audio production system. Plus: the S80 Producer Box from Trident Audio, speaker modelling from Roland, and much more...

Steinberg Nuendo

Audio production system

Price see box, page 30
For Most editing done in main window ⊙ Host-based processing ⊙ Scalable system requirements ⊙ True surround mixing
Against Screen navigation can be a bit tricky
Verdict Solid, well-designed, highly-featured and easy to use for audio and MIDI

There's little doubt that Steinberg have been at the forefront of audio software for many years. It all kicked off with Pro 24 for the Commodore 64, and subsequently Atari ST, which grew into the earliest incarnations of Cubase, probably the most widely used music production software in the world.

However the natural progression into the realms of audio recording hasn't been a smooth journey for Cubase. Modern VST-laden versions, due to the fact that they have never been re-written from scratch, suffer from the excess baggage of many years of conversions and updates to its underlying code. But now Steinberg have something new for us – and this time it's a completely new program. Meet Nuendo...

So what is it?

Despite some of the wild (and largely inaccurate) rumours that have been flying around in pro audio circles, Nuendo hasn't been designed as a replacement for Cubase – why would any company stop making a product that sells in such huge quantities? Nuendo is more a sideways and upward step from Cubase.

The features list makes for very impressive reading: up to 200 tracks of audio, host-based mixing and effects processing, true 5.1 surround mixing (but even this is open-ended), a video track (which also allows limited editing) and, to top it all off, MIDI recording and editing capabilities. As well as Nuendo software, various hardware options are also available, although, unlike with some systems, this hardware isn't a requirement for the system to work (see *Hardware* box, far right, for more on Nuendo hardware).

As Nuendo uses host-based processing, it's fully scalable to the machine that it's running on. Surprisingly, the minimum system requirements of Nuendo are nothing more than a Pentium II 233MHz running Windows 98.

The advantage of this scalability is easy to see – a project could be started on a medium-powered home system, then transferred to a laptop to allow the project to be worked on while on the move. Finally, when it's time for the project to be mixed, you could find a studio with Nuendo running on a twin Pentium III processor-equipped monster PC with Windows 2000 operating system to finish it off – something akin to the PC we used to test the system, in fact.

Dispelling the myths

And what about the rest of those aforementioned rumours? Well, they are just that – rumours. Here are a few of the things that we've heard being bandied around:

1. "Nuendo was developed to run on Silicon Graphics workstations and has been ported to Windows due to lack of takeup". In fact, Nuendo was first conceptualised about four years ago and was indeed initially intended for SGI machines. The reason this never got off the ground was Silicon Graphics' shift towards graphical workstations and their associated technologies, effectively killing the operating system as the basis for a viable audio workstation. Nuendo has been written entirely for Windows operating systems – there's no converted code here.

2. "Nuendo will only run under Windows NT". Nuendo will run under Windows NT, but it's probably the least suitable operating system to choose. Primarily Nuendo is intended to be run on a Windows 98 or Windows 2000 operating system.

3. "Nuendo's initial release version is very buggy and unstable." Again, this is simply not true. There are a few minor bugs (read on to find out what they are), but this is only to be expected with the first release of ⊙

words **Adam Crute and Seb Pecchia** photography **Phil Sowels**

Steinberg set the standard again with their brand-new audio production system

Nuendo Hardware

As well as Nuendo software, there's also a range of hardware. The hardware isn't a system requirement for Nuendo software – neither is the software a requirement for the hardware.

For getting analogue signals into and out of your PC you could use the Nuendo 8 I/O. This standard rackmounting interface connects to your PC using ADAT optical connectors. It also features a TDIF in and TDIF out multipin connector.

The converters housed inside the unit provide 24-bit 128x oversampling conversion, making it ideal even simply as a stand-alone A-D/D-A converter. Eight inputs and eight outputs are provided on standard balanced jacks.

The Nuendo 96/52 Audio Card is a standard PCI card that features three ADAT optical (lightpipe) digital connectors, a single S/PDIF connector, ADAT sync input and wordclock I/O. The card is designed to directly access the ASIO host application's memory, totally removing the need (and subsequent inefficiency) of a DMA buffer. A single card will connect to up to three Nuendo 8 I/Os, providing 24 discrete channels of I/O.

The Nuendo/Apogee AD-8000 is a 24-bit audio interface and conversion system that features what are probably the highest-quality converters Apogee have ever made. As you would expect, the AD-8000 features Apogee's UV22 process, which allows high-quality conversion of digital audio word-lengths without the need for noise shaping and dither. The unit connects to your PC in the same way as the Nuendo 8 I/O: through a standard ADAT optical cable.

Finally there's the Timelock Pro. This rackmounting unit generates MIDI timecode from incoming VITC or LTC timecode. It can also generate wordclock and Digidesign Superclock synchronisation data.

prices

- Nuendo software £999
- Nuendo 96/52 £499
- Nuendo 8 I/O £1,249
- Timelock Pro £729
- Surround Plug-ins £999
- Nuendo/Apogee AD-8000 £5,899

CD info

track 04-05

Hear the Nuendo 5.1 channel demo encoded for Dolby ProLogic, followed by a track showing off the effects and automation

any software, no matter how much beta testing is carried out. If any newly-released software is so bugged as to be unstable then it is obviously cause for concern, but this is no problem for Nuendo either.

The evaluation system that we've been looking at has only crashed once, and our suspicions as to the cause of the crash lie more with the new Windows 2000 operating system than Nuendo itself. In fact, the test system crashing showed up one of Nuendo's many clever features: the software keeps a constant log of what you are doing, so if a crash does occur it's no problem, as Nuendo can restore everything to how you last had it, even down to the position of the cursor.

So, with those preconceptions nicely sorted, let's move on from the theoretical 'what it's meant to do' side of things and see how it actually does do.

In use

First thing's first: installation, which was as easy as it should be. Bang the CD in the drive, attach the obligatory dongle (the hardware 'key' that attaches to your PC's parallel port and serves as part of the copy protection system) and the installation program takes care of the rest. A quick restart and you're ready to go.

Nuendo's basic document is called a project. Creating a new project creates a bunch of nested folders on the selected drive used to store audio files, edited files, fades and so on. Conveniently, a selection of templates is available to use as the basis for different project types, and new templates can be created and added to the list.

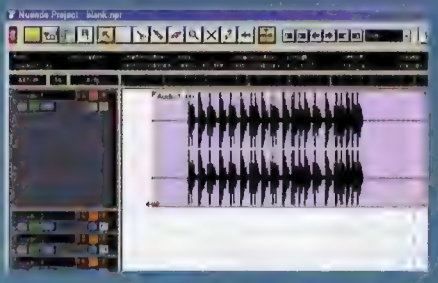
Cubase users may well get a feeling of déjà vu when looking at this – the transport bar, although different, looks remarkably similar, as does the VST Mixer window. However, it's not only Cubase users who will detect familiar features – the row of tool icons at the top of the project window (the main working area of Nuendo) has more than a passing resemblance to Pro Tools, which can only be a good thing.

As has become very much the norm, track details are listed down the left-hand side of the screen and the time-line, which can display time in many formats, runs along the top of the window. Those of you with good eyesight may have noticed that at the

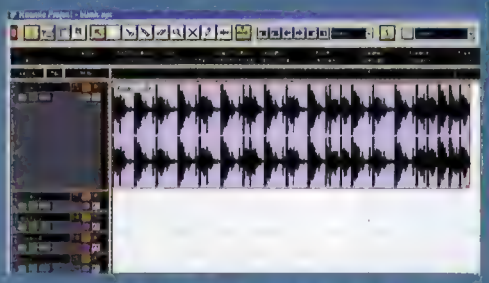
A guided tour through Nuendo's basic recording and editing features

Basic recording is a very straightforward affair: select the track to be recorded to, select mono or stereo, arm the track and hit record. The new recording appears in the project window, from where most editing can be done. Let's take a look at how you would import a loop into Nuendo and then match it to the project tempo

1. Expand the view on the track to be recorded to and arm the track by clicking the 'R' button. Hit record and play the loop.



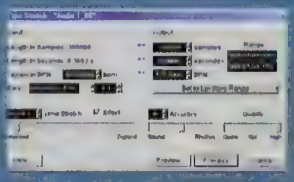
2. Clicking on the object that now appears activates it. Use the mouse to pull the small red squares in the lower corners of the object to the start and end points



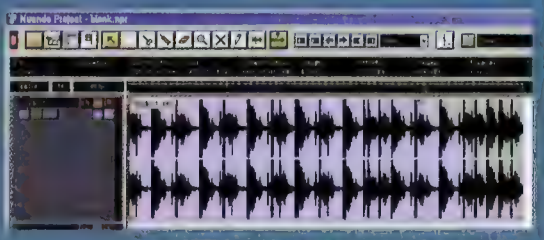
3. ...leaving you with something like this. Notice that the 4-bar loop is longer (i.e. slower) than four bars in the project. A time-stretch is required.

5. Right-click the object. From the context sensitive menu that pops down select 'Process -> Time Stretch'.

4. Use the Range Selector tool (circled) to define a 4-bar area of the project then hit 'P' to set the left and right locators to this range. The grey area of the screen represents the area within the left and right locators.



6. In the Time-Stretch window, select 'Set to Locators range' (i.e. scale the selected audio to fit between the locators). Click the process button.



7. The loop now fits the bar range and plays in time with the project tempo. A fade-out can be added at the beginning or end of the loop by dragging the blue marker that appears in the top corners of the selected object. The screen above shows a fade-out at the end of the loop.

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Post pro with Nuendo by Seb Pecchia

After sitting down and playing with Nuendo for a few hours, I was pleasantly surprised. But just how well would this kit serve you if you needed to do some post-production work to picture?

It certainly boasts some nice features, with the surround sound capability being the obvious one. And the flexible surround options makes it pretty future-proof.

Video can be imported into sessions in AVI format, which is OK for domestic purposes, but not really suitable for broadcast. But if you just want to get a general layout for your sound design needs and worry about an actual dub later, then this feature can save hours trying to lock up to some strange video machine.

The picture is displayed in clips or frames, each one a thumbnail with an associated frame number by it. You can do a number of neat things, for example snapping to clips, replacing audio in an existing video file or extracting audio from a video file, and you can even time-stretch audio to match video. However, these features are bitty and you'll go via several windows in order to do it.

The surround option is quite cool with very nice visual orientation of sound in the 5.1 field using joystick-style control surfaces in the mix window of Nuendo. It looks and sounds great, yet in practice a computer mouse is not the ideal controller for accurate surround sound mixing. However, we are reliably informed that plenty of controller options will be available later in the year, hopefully one of these will have a joystick.

Mixer channels are easily routed to surround channels and the software comes with plug-ins specifically for surround sound support (e.g. the Nuendo Dither and Matrix encoders and decoders). Steinberg point out that the format and transfer of your surround-encoded material (from Nuendo to final product) involves special software and hardware, both of which are patented technology and therefore not available at this point for general licensing. This of course means that for DVD or surround authoring Nuendo is not a complete solution – which may concern some potential users. To make your own DVD you'll have to hire the relevant processor from Dolby Labs or spend a million in a DVD suite.

Time Lock Pro

This is the box that will help you hook up to those strange video machines mentioned earlier. Basically it's a synchroniser that can do a number of things: for example, converting Video/VITC and/or LTC into wordclock or MIDI timecode. This may be alien to some but it could be very useful to others. It is capable of locking up to just about anything in a video vein very nicely, and also sports varispeed features.

Now in the past, the problem that would arise in a post session would be that the engineer would scroll into the picture (say three minutes), hit play and then the audio would have to snap to picture, which can get really annoying, what with lock-up times and the like. Only at the very top end of the audio workstation market would you get varispeed and shuttle lock-up. However Time Lock Pro can do it. If the source code is an LTC signal and you shuttle into the picture, the LTC will drop out, but so long as VITC signal is present at the same time, then this takes over for positional reference, and then switches back to LTC when its back to play speed. It can get lost if you're over-zealous but it's a great feature nonetheless.

For serious post work, it has half the features, lacking EDL compilation functions or auto-conform features. Really, the best thing post-wise going for Nuendo is the 'Post Pro' sync box. Other than that, the big boys of post production won't need to worry. If you're getting into surround sound and picture work for the first time, then this could be the baby for you.

bottom of the track list there is a box that displays the maximum available recording time on the project's drive. This is constantly updated as you work, and becomes a valuable source of information.

The overall zoom level of the project window can be controlled by the sliders located on the bottom right corner. You can also control the vertical zoom level of the contents of on-screen objects using the slider on the upper right hand side of the window (see Fig.02a to Fig.02d on page 33). These sliders, as in Cubase, are a bit fiddly to use, especially when trying to zoom in to a specific level.

Also, as in Cubase, when zooming the time (horizontal) axis, invariably the area of the screen that stays in view isn't the area of screen on which you were working. To be fair this is largely due to the way Windows handles the drawing of... er... windows, and Steinberg have alleviated the problem to some extent. Clicking on the time line moves the song position cursor to that point – keeping the mouse button held down allows you to smoothly move the cursor around the screen.

Now the clever bit. While still holding the mouse button down, moving up and down zooms the time axis while keeping the screen centred on the cursor. It can be a bit tricky at first, but after a while it becomes second-nature to navigate around the screen using a combination of up/down left/right movements. Zoom settings can also be stored to a zoom memory location allowing quick switching between different zoom levels.

The only thing lacking is a command that will jump the view from one end of a selection to the other, something that is especially useful when zoomed in close on a section of audio. This can be worked around by assigning a memory location to either end of the selection and jumping between them, but this isn't an ideal solution. A final comment on 'the zooming thing': each individual track height can be adjusted, so objects that you are working closely on can be conveniently large while other tracks can be kept small and unobtrusive.

As well as storing individual zoom settings, Nuendo can also store whole screen layouts, remembering which windows are open and where they were located on screen - a feature that will be familiar to Logic users.

Practically every parameter is automatable and each track can have multiple associated automation tracks running alongside it. These are accessed by clicking the small '+' sign in the lower left corner of each track. The automation data is then displayed on screen underneath the respective track (see Fig.03 on p.34).

All automation data can be manually edited with little more than a few mouse clicks. Better still, automation can be copied and pasted to other points within a track or other tracks entirely. You can also copy data between different controls – for example, copy volume automation to, say, an EQ frequency control.

In Nuendo terminology, an on-screen part is called an object, representing anything from MIDI to Video, and objects can be grouped together into larger objects (the source objects then become 'events' within the new object). Much of the editing of objects can be done entirely from within the project window, and this isn't just the usual moving and trimming of objects – everything from locking the object in place to actual processing can be done from here.

You can even process an audio object with a VST plug-in if you want to set a particular effect to a part. Right-clicking on an object or group of objects opens a context-sensitive menu that contains every function that can be applied to the particular object. If you don't want to work on the object while in-situ, double clicking

system requirements

- Intel Pentium II 233MHz processor or higher (optimised for Pentium III)
- AMD K7 (Athlon)
- 128Mb memory
- Windows 98, Windows NT, Windows 2000

AUDIO HARDWARE

- Supports ASIO-2 for high-end multi-channel cards
- Supports Windows MME for other soundcards
- Integrates with high-quality converters such as Apogee A-8000

Nuendo's Toolbar bears more than a passing resemblance to Pro Tools

it will open its relevant editor.

When manipulating objects on-screen you can choose various snap options. The usual bars/beats options are here, but there's also a nifty option to snap to zero-crossing points (where the audio waveform intersects the horizontal axis), preventing audible pops and clicks at the beginning and end of an audio section.

Audio

With the appropriate interface you can record up to eight audio inputs simultaneously. With the basic RME soundcard and its 1Kb buffer there is a 20ms latency problem, but with the hardware interfaces you can monitor through in record without any delay. Group editing of audio tracks is not possible without dragging over the group each time you want to make an edit. Entire audio files, or selections within them, can be processed with a range of standard digital audio editing functions (such as time-stretching and normalising) or with VST effect plug-ins, creating a new audio file incorporating the effect. The slightly convoluted method of jumping between the extremes of a selection is the only fly in the ointment.

Editing MIDI

On the MIDI side of things, the only available editor is the familiar key editor (aka piano-roll editor). This is very much like Cubase's key editor, the main difference being that Nuendo, by design, doesn't feature all the advanced MIDI editing capabilities of Cubase.

None of the important functions, such as quantising and the ability to draw controller messages have been lost, though. It is possible to edit MIDI data in list form using the Project Browser, which looks very similar to a standard Windows file browser, showing all the files, be they audio, video and MIDI associated with the current project. Selecting a MIDI part in the left-hand panel of the browser brings up an editable list of that MIDI part in the right-hand panel.

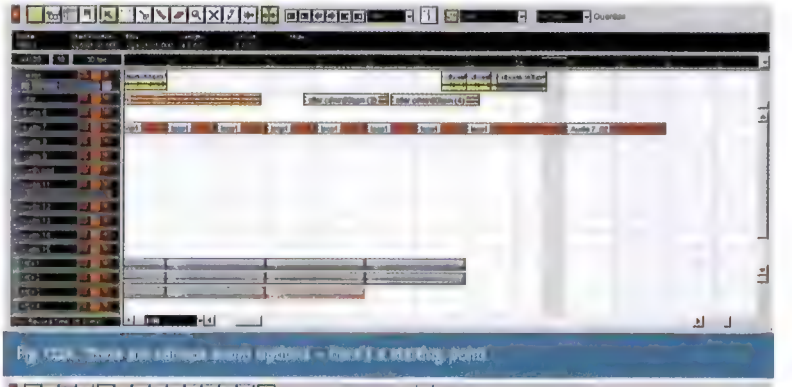
Importing pre-existing files into a session is yet another thing that Nuendo handles well, and you can choose to leave the file in its current folder or copy it to the project folder. Impressively, Nuendo is able to read and play audio that is located on a network, allowing larger studios to maintain central audio libraries that can be tapped into from different control rooms. The benefits of this are easy to imagine.

Importing video files offers yet another pleasant surprise – Nuendo will strip the audio from a standard AVI file, allowing it to be edited in its own right and then be bounced back to the original AVI file. Another spectacularly useful feature is tied in with Nuendo's ability to have more than one project open at a time – objects can be dragged from one project to the other. You could be working on the full six-minute mix of a track at the same time as preparing the three-and-a-half minute radio edit.

Mix it up

Moving on to the mixing side of things, we start to see some more of Nuendo's impressive flexibility. Firstly, Nuendo fully supports surround mixing – and not just the formats that are currently vying for the surround crown. By having the ability to add or remove discrete output channels Nuendo can be adapted to any forseeable surround format. And better still, these channels can be added to, or removed from, an existing project without any difficulties whatsoever.

Templates are provided for standard 3/2, 5.1, 6.1 and 7.1 surround formats, but in theory the number of available channels is only limited by the number of discrete outputs your PC has. A Dolby Surround »



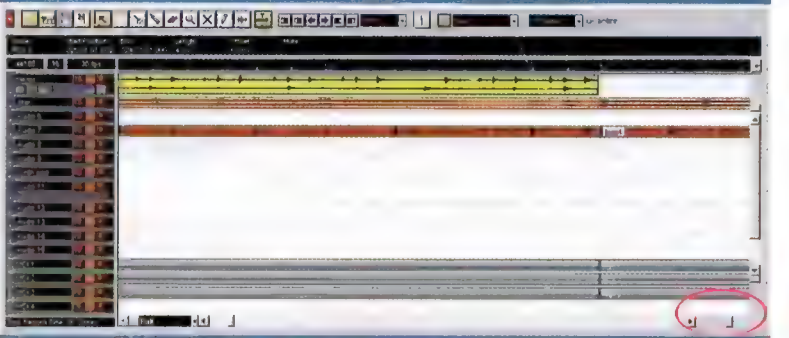


Fig. 02B: Here the time (horizontal) axis has been zoomed with the highlighted slider

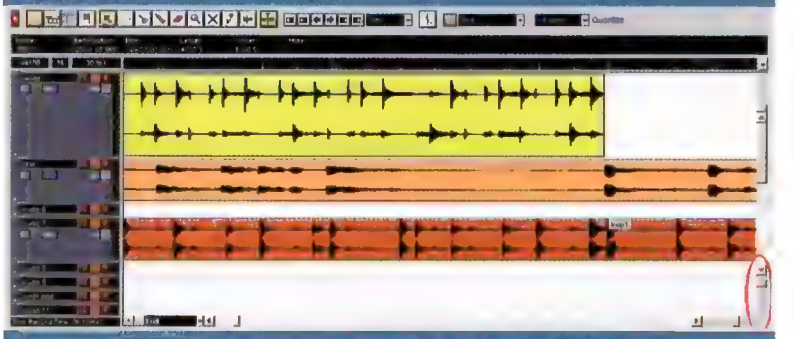


Fig.02C: Here the overall vertical axis has been zoomed with the highlighted slider

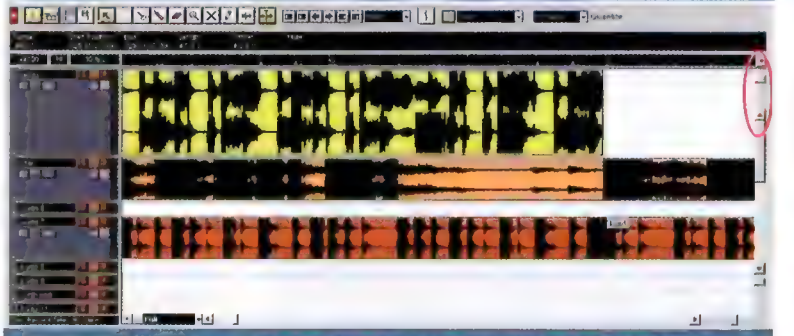


Fig.02D: And finally, the contents of screen objects can be zoomed using this slider (highlighted)

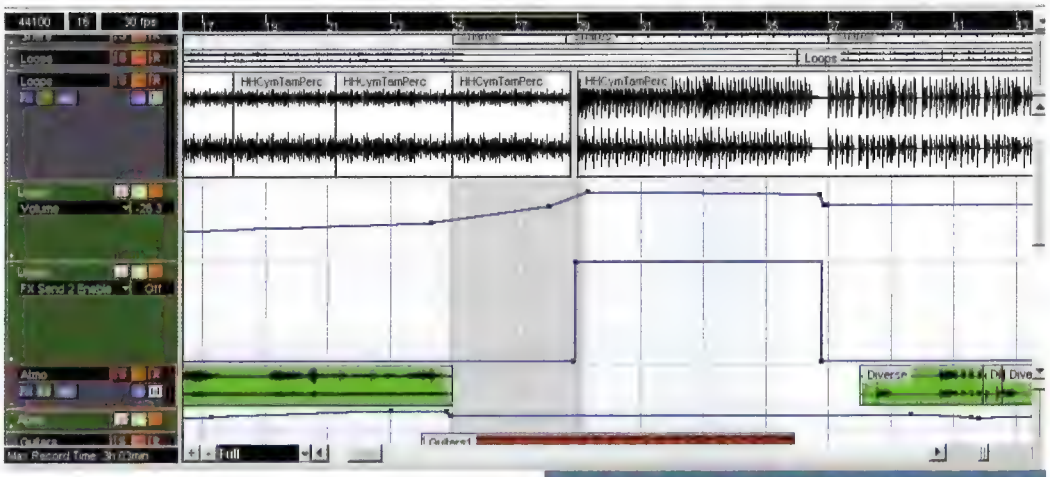


Fig.03: Automation data can be edited, copied and pasted to your heart's content

plug-in is included for encoding or decoding a Dolby ProLogic soundtrack at mixdown, but if you were working with film and needed to mix to a true multi-channel format then Nuendo could do this too, creating a set of audio files that could be sent to a Dolby lab for final mastering and encoding. When mixing for surround sound the standard pan control for each track can be switched to a 3D pan control.

The audio demo on the CD is the standard Nuendo 5.1 channel demo, which has been encoded for Dolby ProLogic – if you have a surround amp, hook your CD player up to it and set the input to ProLogic to hear for yourself. Also on the surround sound front is a set of plug-ins designed specifically for multi-channel mixing. These weren't available at the time of this review, but they will be available by the time you're reading it.

In brief, the plug-in pack comprises: OctoComp, an 8-channel single-band compressor; OctoMaxx, an 8-channel multiband maximiser; OctoQ, an 8-channel parametric EQ; OctoVerb, a true 3D reverb; LFE Splitter, which removes the low frequency element from the centre channel; and finally LFE Combiner, which encodes a low-frequency track into the centre channel.

Another major improvement to Nuendo's mixer over Cubase's is the EQ – curves can be easily drawn on a graph, allowing easy and intuitive editing. What's more, any edits made can be recorded as an automation track and manipulated in the main project window. Each channel can have up to four insert effects assigned to them and there are a total of eight auxiliary sends that can be used to feed VST effects or create a send to any other available output. Fig.05 (below) shows Nuendo's VST Channel Settings window.

Fig.05: The new improved VST channel settings window. Notice the drawable EQ curve

Talking of VST, cross platform compatibility isn't too bad: You can import VST songs, VST plug-ins are compatible, REX files are supported and VST instruments are coming in V1.1. Bugs are surprisingly few. One that hasn't been mentioned yet is the habit of Nuendo's windows to slip around the screen slightly. Not a major problem, but it can be somewhat irritating to have to mess around re-sizing and re-adjusting the things all over again.

On the whole, though, there is certainly a lot more to praise than there is to criticise, and the program, as a whole, works exceptionally well. Stability isn't even an issue (we had five other programs running in the background at one point and Nuendo happily carried on regardless).

Verdict

It would seem that Steinberg have taken all the best bits from the current pack of professional music and audio software and bundled it all into one package. True, it has limited MIDI capability but Nuendo was never intended as a MIDI workstation. Its extensive surround mixing capabilities alone are enough to make this a highly desirable and somewhat unique (for the moment, at least) product. When you consider the rapid consumer take-up of surround sound systems, and the fact that many nightclubs and the like are installing surround sound PA systems (meaning that the dance music market is bound to start producing music in surround sound as standard), it's easy to see the potential interest in Nuendo.

When you add to this the fact that Nuendo will run on anything from a laptop to a super-turbo-charged twin processor PC, without additional hardware, it's easy to imagine Nuendo becoming the new standard by which all others are measured.

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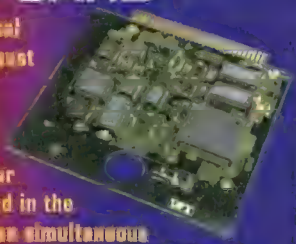

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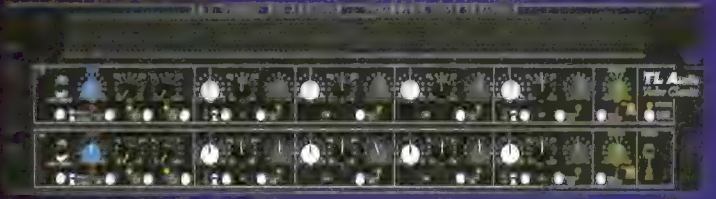

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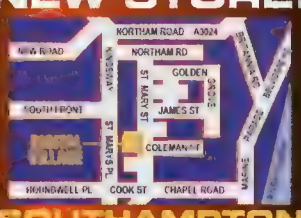

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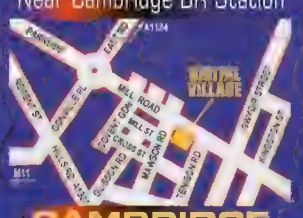

CAMBRIDGE
86 Mill Road, Cambridge, Cambs
CB1 2AS **01223 316091**

Focusrite ISA110 Limited Edition

Rackmount preamp and EQ

Price £1,495
For High-quality sound › Simplicity of operation › Versatile EQ selection
Against Doesn't get the drinks in
Verdict Classic mic preamp and EQ re-issued in a new compact unit

A simple yet effective alternative to the channel strip for getting high-quality sounds to your recorder

It's generally accepted that a recording strip is the way to get your signals to tape (without going through a possibly lesser-quality desk channel) ensuring high-quality recordings are captured. And indeed, with so many channel strips around with a whole slew of onboard features designed to process the signal, it's easy to overlook the simple approach of using just a quality mic amp and a touch of EQ.

The Focusrite ISA110 mono mic preamp and EQ could well be the perfect expression of that simple approach. The ISA110 was, in fact, one of the first 'channel strips' long before the time the phrase took on the popular definition it has today. One of the reasons for its original success is that it enables the user to record direct to tape, thus taking advantage of a different set of sonic attributes than those provided by their own desk.

And the re-release of the ISA110 takes Focusrite right back to its mid '80s roots. The original design was created by Rupert Neve for use in Air Studios, and the story goes that the company was given the original design brief for a vertical module to fit in the upper section of the custom Neve console installed at Air, while at the same time offering a more versatile EQ – compared to the original. The studio then commissioned Focusrite to build an extension bay providing an extra 16 channels.

Following on from this, the ISA110 was soon being sold commercially in two different rack versions – one containing four channels and the other eight. The racks were sold in quantity to world-class studios in the UK, USA and Japan, with the mic preamp and EQ becoming the basis of the Focusrite Studio Console, which was designed around it. The »

words
Trevor Curwen
images
Simon Dodd

specifications

Mic and line inputs
Balanced XLR

Output
Balanced XLR

Insert send/return
Balanced jacks

Mic gain
0dB to +60dB in 6dB steps

Line gain
±18dB in 6dB steps

High-pass filter
8dB/octave slope 5 selectable frequencies

Low-pass filter
18dB/octave slope 5 selectable frequencies

Hi/low shelving EQ
Switchable frequencies

HMF and LMF
Fully-parametric EQ

HMF
600Hz to 6kHz (1.8kHz to 18kHz when 3x selected)

LMF
40Hz to 400Hz (120Hz to 1.2kHz when 3x selected)

Weight 7kg

Dimensions
484 x 44 x 309.7mm

CD info

track 06
The high and low-pass filters and EQ are put to work on drums and acoustic guitar

The insert send/return sockets give the option of sending a clean output directly from the preamp to your recorder

original vertical rack format was replaced in '92 by the Blue Series ISA215, a standard rackmount unit comprising two channels. The mic preamp and EQ of the ISA110 were later used in the design of the Focusrite Red series.

Overview

The new version of the ISA110 apparently uses exactly the same components as the original, including the custom-wound transformers on the inputs and outputs. It's solidly built, extends over 12" behind the familiar blue/grey front panel and weighs in at a hefty 7kg.

All of the knobs have a precise, solid feel and the function switches in red, yellow and green illuminate when active. The front panel layout is at odds with most other mic preamps in that the input gain section is at the far right rather than the left. This is explained by the unit's genesis as a vertically-racked design.

The input is first selected by either the mic or line switches, which relate to the rear panel balanced XLR mic input and balanced XLR line input. Another switch activates the 48V phantom power at the mic input. Both mic and line gain each have their own stepped control knobs with gain increments in 6dB steps.

There's plenty of scope on the mic input – sensitivity is variable from -60dB to 0dB while the line gain is variable by up to 18dB either side of its '0' centre-detente position. A third trim knob works with whichever of the inputs is active and provides an additional continuously variable gain of up to 10dB.

The mic input has plenty of scope, with variable sensitivity and gain

More controls pertaining to the preamp are found at the left of the control panel. Here there is a phase reverse switch and an overload LED that illuminates when the peak signal level reaches or exceeds +20dB, or where the signal level reaches 6dB below clipping. The signal is monitored after the EQ stage.

Situated directly above the phase switch and overload light are the two filters, both featuring a six-position stepped rotary-switch with their first position being 'off', keeping the filters out of the signal path. Both filters provide a fairly steep 18dB-per-octave roll-off with the low-pass filter having selectable frequencies of 3.9kHz, 5.6kHz, 8.2kHz, 12kHz and 16kHz. The high-pass filter has selectable frequencies of 36Hz, 60Hz, 105Hz, 185Hz and 330Hz.

Output from the unit is via a rear-panel balanced XLR, although there are also balanced-jack insert send/return sockets after the mic pre and before the EQ, with the option of sending a clean output directly from the preamp stage to any connected recorder.

There are two EQ sections available, parametric and shelving, with each having its own switch to bring the section into the signal path. For any EQ at all to be active however, the 'all EQ' switch has to be engaged. This activates all sections of the EQ module (apart from the high and low-pass filters that are viewed as part of the input module), including the insert return. This is invaluable for A/B comparisons of flat/EQ'd settings as well as for checking the effect of any connected external processors.

In the shelving EQ section both high and low EQ is available. Each has a continuously variable cut and boost knob with a centre detente position and a six-position rotary switch for selecting the frequency. High selectable frequencies range from 3.3kHz, 4.7kHz, 6.8kHz, 10kHz, 15kHz to 18kHZ, whereas the available low frequencies are 33Hz, 56Hz, 95Hz, 160Hz, 270Hz, and 330Hz.

Two frequency bands are again covered in the parametric section, each with its own centre-detented

continuously variable cut and boost knob and a knob for adjusting the Q. The first band covers a continually-variable range of frequencies from 40Hz to 400Hz, that can be switched to cover the range from 120Hz to 1.2kHz with a push of the '3x' button. The second band ranges from 600Hz to 6kHz, but is again switchable to the 1.8kHz to 18kHz range.

In use

In its role as preamp the ISA110 performs with much aplomb. It is quiet and clean, and with its extended high-frequency response captures all the nuances of the original sound source with ease. Using the ISA110 on an overdub session, a breathy female backing vocal was recorded with real in-yer-face presence and a zingy acoustic guitar rhythm part went down with loads of top-end detail. Bring the EQ into play and you have a very powerful tone-shaping tool with the two filters, shelving and parametric sections combining to provide a huge degree of versatility.

The shelving EQ is excellent for some natural-sounding general tonal shifts from smooth high-frequency lifts (nicely opening up the top end of the sound and very useful on vocals) to some powerful character shifts at the bottom end. The parametric section is comprehensive in its abilities, allowing around 15 to 20dB of cut or boost depending on the chosen frequency and Q, and capable of some serious sound sculpting.

This was brought home when the unit was used on a remix of a multitrack recording where the sounds could have been better recorded in the first place. New EQ was applied to each track as it was transferred from multitrack reel into a computer-based system, allowing a lead vocal to have a nasty nasal honk taken out, a snare to be given a little extra 'crack' while minimising its boxiness and a bass guitar to be given a more rounded sound. Whatever its function, the EQ always came across as an organic part of the sound.

The Focusrite ISA430 Producer Pack, with its gate, de-esser and compressor, may be the all-singing, all-dancing performer in the range, but if you already have a favourite compressor for use in its insert circuit or in line, the ISA110 gives you that Focusrite quality in a more compact and inexpensive package.

Verdict

The criteria that led to the design of the original mic preamp and EQ circuitry are just as valid today, and the need for a unit like the ISA110 may be greater than ever. With more high-calibre work being done in computer-based 'project' studios without access to a high-quality desk and its associated input channels, a unit like the ISA110 will often be the main input channel rather than an adjunct to that desk.

This design has always been a class act and remains so. The asking price is not too much for sound of this quality, and is actually less than the original 1988 price. For this, you get a quality mic preamp with natural-sounding and versatile EQ that you can combine with the compressor of your choice.

More from: Focusrite Audio Engineering Ltd, Lincoln Road, High Wycombe, Bucks HP12 3FX Tel: 01494 462246 Web: www.focusrite.com

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Roland DS-90A

Active digital studio monitors

Price £450 each

For Solid construction › Good array of input connections › 24-bit digital

Against Not particularly clear for reference purposes › Bottom end a little vague › A VS or VM product is needed to get the best out of them

Verdict A well-built set of monitors with the ability to 'simulate' other models – albeit with the use of Roland's VS or VM products

Roland are a company who have their fingers in many pies within the pro audio market. From synths and groove boxes to mixers and amps, Roland do it all. One area Roland haven't really delved into yet is the studio monitor market – until now that is. Enter the new Roland DS-90As. For a first attempt at a studio monitoring system, the DS-90As certainly look the part, but can they hold their own against some very strong and established competition?

Overview

The DS-90As are two-way bi-amplified monitors with a 30W amp driving the tweeter and a 60W amp driving the woofer. The 160mm polypropylene bass driver is mounted securely using eight Allen bolts below the 25mm soft-dome tweeter. At the bottom of the cabinet are two ports either side of the power and digital-in LEDs. The box itself is made from 3/4" MDF with a 1" baffle and is a fairly standard bass-reflex design measuring approximately 23 x 38 x 37cm.

All the inputs are around the back, mounted just below the heat sink. As well as the usual balanced XLR in, one can also connect with either balanced or unbalanced TRS jacks. The DS-90A features digital inputs in the form of either co-axial or optical with a 'thru' connection to link to the other side. For fine-tuning, the speakers also have HF and LF trim controls and an input level control. The IEC mains connection and power switch are located on the back panel.

Unlike some models, the DS-90As do not have specific left and right models so it doesn't matter which one goes where. All we would say is wherever you put them, make sure they're secure because these are fairly heavy at 11kg each, so the meter bridge is a no-no – unless you like dents in your desk.

With a quoted frequency response of 48Hz to 20kHz, the DS-90As employ a fourth-order active crossover at 2.6kHz to separate the highs from the lows. In case you're wondering, the digital inputs are 24-bit so there should be no problem with clarity.

The speaker modelling – only possible with a V-style mixer – emulates many famous monitors, although you'll have to figure them out from their cryptic names. For example, what could a White Cone be? Or maybe a White Cone with Tissue… classic. Other examples include, PwdMack, PwdGenBlk and Small Cube – you get the drift. As well as studio monitor simulations, the DS-90As also emulate more domestic appliances such as TV speakers or boomboxes. The idea behind all this is that it will save you having to buy lots of different monitors for when you want to check a mix through various models to see how it sits.

In use

The DS-90As got plumbed in straight away for use on a tracking session. Using the analogue XLR inputs we used them as they come (not simulating something else), and on first impressions they sounded good: very clear and punchy. However, over the course of the session we started to notice the slight lack of detail in the sound: a slight duck at 400Hz and a peak at 800Hz appeared.

The frequency response curves also show a bit of unrest between about 2kHz and 4kHz and then a slight rise after 10kHz. These inconsistencies in the sound aren't really the traits of a true reference monitor, although to be fair, most monitors feature some variations in response.

We decided to get the V-Mixer up and running to allow us to use the speaker modelling software. Setting this up was relatively easy and we decided to go for the trusty White Cone setting, seeing as we had some real ones lying about to A/B test with. We were quite impressed immediately. The sound was »

words **Sean Vincent** images **Simon Dodd**

A lovely pair of DS-90As: Roland's first outing into the studio monitor market is aimed squarely at users of their V-range

So just what is 'speaker modelling'?

Over the last few years Roland have been at the forefront of a new technology that allows you to simulate different acoustic properties from a standard input signal. This was first seen on their VS recorders in the form of mic simulators that transformed either a line input or basic dynamic mic input into a variety of expensive condenser mics.

This technology was also used to provide a range of 'classic' guitar amp simulations from a line input. Both these examples worked well and were a real bonus to an already exciting product.

When the VS-1680 and V-Mixers were released, they incorporated this technology in the form of the Roland VS-8F2 effects card. This is where the speaker modelling software can also be found.

The Software enables you to choose your target speaker from a list of 11 potential candidates: SuperFlat, PwdGenBlk, PwdE-Bas, PwdMack, Small Cube, White Cone, White Cone + Tissue, Small Radio, Small TV, Boom Box and Boom Box L-Boost. They all have corresponding graphic representations, so it's not hard to see what they are getting at.

As well as using the DS-90As as an output speaker, the software also gives you the choice of selecting from Roland's range of professional PA speakers for live applications. In this mode you can simulate a flat response or make your small PA system react like a much more expensive system. The ability to give your PA system a flat response might save time when EQ'ing a system, a nice touch for live engineers who use the Roland V-Mixer system.

It ain't over 'til the fat lady sings,

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The usual input suspects line-up around the back of the DS-90A, along with the trim and input level controls

unmistakably familiar in that harsh unflattering way that it's supposed to be.

Doing some A/B tests proved the DS-90As to be not too far off the mark, although they still sounded slightly different. Unfortunately, we didn't have any more of the 'target' speakers to hand for more A/B tests, although having worked with most of them fairly regularly, we can safely say that the simulations aren't too bad.

The TV Speaker and Boombox settings are really just for checking mixes to see if they translate to crappy speakers for radio and TV play. They worked fine and will probably be quite useful, although they still sounded better than most boomboxes we've heard.

An interesting point is the inclusion of a SuperFlat setting within the software, apparently giving the DS-90As a flat response. Using this setting certainly improved things and made the DS-90As sound very nice indeed, but you shouldn't really need to simulate a flat response on reference monitors.

We proceeded to mix a track using three different settings, but trying to achieve the same result. The first mix was done using the DS-90As on their own with no modelling going on – the result was ok and sounded pretty good in the studio, but unfortunately it didn't translate brilliantly to domestic systems on playback.

This would improve as we got more used to their sound, but in this case they didn't really impress, though using the Flat setting made things easier. We didn't notice the difference after a while in the studio, but the track had much more clarity and punch when played on the same domestic system afterwards. The main area of improvement seemed to be in the upper-mid area, where things sounded a lot more defined.

The final mix was done using the White Cone setting. This proved to be on a par with the previous mix, although it had slightly less clarity in the region below 80Hz, a typical trait of the target monitors, we imagine. It would be fair to say that the DS-90As used in conjunction with software to make them 'flat' won this test. Perhaps if the speakers were this flat to begin with, they'd be a better option for serious applications.

Verdict

The real market for these speakers is the project or home studio that sports one of Roland's V-Mixers or VS Studios. As a standalone set of reference monitors, the DS-90As sound ok and would probably be fine as long as you were used to their sound, but reference monitors should have a completely flat response and react uniformly to the input signal.

These, however, are not quite flat and don't sound particularly detailed. Considering that they are active and have a 24bit digital input they aren't over-priced, but for this kind of money you don't really want to have to compromise – especially on monitoring.

The ability to model different types of monitors seems to be a bonus with the DS-90As, but this is slightly over-sold. To truly simulate another speaker you would have to replicate its construction and cone properties. Otherwise, the result will always be flawed.

The DS-90As provide a fair representation of their target speakers but only from an on-axis point of view. The off-axis response is always going to be different and so the sound can never really replace that of having the real deal. On the other hand, with the passive models, the different amps used in different studios would colour the sound to a certain degree anyway, so maybe there's not a lot in it.

The other factor is the price. To get just a few of the different models for your studio would easily cost two or three times the price of the DS-90As, but at least there wouldn't be any compromising on quality. Also, to really get the best out of these monitors, you need the modelling software, and this is only available within either a V-mixer or some of the VS range of hard-disk recorders. This would make the DS-90As an unlikely purchase for anyone who already has a mixer or HD system they are happy with. Maybe the software will be made available in another form at a later date to make it more compatible with other set-ups.

If you're using a system that has either a VS or VM product at the heart of it, then the DS-90As are worth checking out. If you don't currently use any form of professional monitoring then these will definitely improve your sound and with the use of the modelling software you can save on buying more speakers to check your mixes on. On the other hand, if you already have a working system that you like that doesn't include the products required to run the software, you might be better off looking elsewhere. At the end of the day, the DS-90As are aimed squarely at the users of Roland's 'V' range, and in this application, they should serve well.

More from: Roland (UK) Ltd, Atlantic Close, Swansea Enterprise Park, Swansea, West Glamorgan, SA7 9FJ Tel: 01792 702701
Web: www.roland.co.uk

specifications

Crossover frequency
2.6kHz (fourth order)

Frequency response
48Hz-20kHz (±-3dB)

Dimensions
228.6 x 381 x 375mm (w x d x h)

LF driver
160mm polypropylene

HF driver
25mm soft-dome

LF amp
60W

HF amp
30W

Construction
Magnetically shielded

Enclosure
Bass reflex design

Analog inputs
XLR, TRS jack, unbalanced jack

Digital inputs
Optical, co-axial and co-axial thru (conforming with S/PDIF)

Weight
11kg each

Waves L2 Ultramaximizer

Hardware audio maximizer

Price £1,821
For Easy to use › Great manual › Does the job
Against Expensive
Verdict High-quality A-D/D-A converters with an effective maximizer; hard on the wallet but very useful

Since the arrival of CD burners, people have had to get their heads around the concept of mastering. This is absolutely the last treatment your music gets prior to manufacture and used to be the preserve of shadowy figures who carved your music out of plastic with big German machines. Nowadays though, most music is manufactured in digital formats and you can do the mastering yourself.

The digital domain is a very confusing place. You've got 16- and 24-bit, wordclocks and wordlengths, Red Books, S/PDIF, AES, 44.1 and lightpipes and bloody jelly to go on your lightpipes, dithering, noise-shaping, artefacts and all manner of analogue-to-digital converters to choose from… but where do you start?

Well, how about the Waves L2 Ultramaximizer, which deals with the essentials of digital mastering? These essentials are as follows: converting what you have into what you need with no loss of quality; not letting the level exceed 0dB; and making sure that your recording sounds louder than everybody else's. Easy.

Overview

There's a plug-in for everything these days, and giants like Focusrite, Lexicon and Drawmer have made sure they are represented inside your computer as well as in your rack. Even Glade have got in on it.

The Waves L1 Maximizer plug-in is now regarded as a bit of a classic. Now that they've decided to make the reverse transition from software to rackmount, they face some stiff competition from such well-established units as the TC Finalizer (with multiband compression), which is a little more versatile.

Waves are putting the hefty price of the L2 down to the sheer quality of their A-D and D-A converters, the IDR wordlength reduction system (to reduce digital noise) and maximizer algorithms alone. It's black, 2U high and features three pairs of dials, each with its own old-school LED display. It looks like it means business, even though the build quality could be improved.

The Ultramaximizer bit couldn't be simpler. Input is metered on the left-hand pair of bargraph displays, output on the middle pair and gain reduction on the right. The first set of dials fix the threshold at which the maximizer works, while the next set controls the output ceiling, which is effectively the volume. The last dials control the release time of the maximizer, but the ARC Auto-Release option works so well you probably won't use them much.

All the displays are 'peak hold' and the Reset button is bang in the middle, which is handy. Left and right can be linked for stereo and the maximizer can also be bypassed completely. That covers it.

The maximizer concept isn't about subtlety. Once you've set your levels, your signal will absolutely not go beyond them. You could detonate a bomb down one end and be sure no clipping will occur at the other. When distortion is not an option, use one of these.

The rest of the L2 deals with synchronisation and noise reduction, using baffling technology to introduce different types of noise into your sound in order to get different types of noise out of your sound. The Dither and Noise Shaping options will ensure your reverbs tail off smoothly and your quiet sections sound as sumptuous as your loud ones.

Care must be taken with these settings depending on where the L2 is in the chain because of possible ramifications 'upstream'. The excellent manual gives all the help you need with these esoteric processes, some of which are so subtle I'm sure you'd only notice the difference on Bill Gates' stereo.

In use

After plugging up, choose between AES and S/PDIF for a digital input or take the analogue option, using the small trim knobs to adjust your input levels. If you hear annoying clicks from a digital input use the sync button to find the right wordclock source: internal, digital or external (via the BNC connector around the back). Once the L2 is happy, you can hear the results straight away, maximized or not, from the analogue outputs.

If you want a digital output, the signal must be given the same sample rate and wordlength as the gear it is

CD info

tracks 07-08
Hear some drum loops catch the Waves, followed by a completed track before and after the L2 is put to work on it…

words
Steve Evans
images
Katherine Lane-Sims

Waves' L2 Ultramaximizer: for serious maximizing with flawless results

destined for. The sample rate can be switched between 44.1 or 48kHz, or between 88.2 and 96kHz. The wordlength is selected with the Quantise button and options range from 16- to 24-bit in increments of two.

To start with, we placed the L2 between the mixer's analogue outputs and the digital input of a DAT machine. A drumkit was fully miked and individual hits were to be recorded on the DAT. It took a matter of seconds to set the options on the L2 before we were monitoring a roomy drum sound from the DAT. And no-one could tell the difference when we switched between the DAT's and the desk's outputs.

The L2 was set so it only kicked in at about -2dB, only affecting the extreme peaks from the kit. Not having to keep watch for 'overs' is a bonus and gives you more time to concentrate on the sound. A small selection of the drum sounds are included on the CD.

On another session the L2 was used to gather together a motley collection of old DAT mixes destined for a download-based website and a CD archive. The mixes were to be recorded on to hard disk using Digidesign's Digi 001, so the L2's digital output was quantised to 16-bit at 44.1kHz. The DAT recordings varied with age; some awkward examples would only play on one particular player set to long-play and sampling rates varied between 44.1 and 48kHz.

Switching input options on the L2 is easy, glitch-free and ruthlessly efficient. Because it's a 'look-ahead' limiter there is some system latency but as this never exceeds 200 samples, you would only have to worry about that if you were using the L2 as an insert.

It is possible to overdo it with the limiter. As you lower the threshold on the maximizer, the peaks are flattened, so more level can be recorded and the music gets louder, but it sounds best when the attenuation meters show a 3-4dB reduction. Any more and things get a little crunchy. We fiddled about with the release time, but ultimately the Auto Release Control did a fine job and remained engaged at all times. The L2 soaked up everything thrown at it and, with the help of the manual to ensure optimum dither and noise shaping, the mixes were standardised and maximized in no time.

Verdict

While it's tempting to go for big levels on CD, maximizers *can* rob your music of dynamics. In giving your music punch you can easily take the impact away. As Ray Staff at Whitfield St Studios (who has mastered everything from *Ziggy Stardust* to 'Perfect Day') warns: "You can lose the life, size and scale from your work".

Cautionary advice aside, maximizers are here to stay, and used properly can make a good mix sound great. The effectiveness of the L2s Ultramaximizer coupled with its high quality A/D and D/A conversion makes it an attractive proposition for serious applications.

L2 has fewer whistles and bells than the TC Finalizer and with the Finalizer Express (£760) offering the best of its big brother's settings in a preset form, the L2 may not find a home in studios where economy is all. You need to test it in proper surroundings to fully appreciate its quality. The L2 does the job flawlessly, and those who can afford it won't be disappointed.

More from: SCV London, 6-24 Southgate Rd, London N1 3JJ Tel: 020 7923 1892
Web: www.scvlondon.co.uk

specifications

I/O
Analogue, S/PDIF, AES

A-D frequency response
20Hz-22kHz, ±0.05dB @ 22kHz

A-D dynamic range
140dB

D-A frequency response
20Hz-20kHz, -0.5dB @ 22kHz

D-A dynamic range
120dB

Sample rates
44.1, 48, 88.2, 96kHz

Bit depths
16, 18, 20, 22, 24-bit

Dither
Type 1, Type 2, off

Noise shaping
Moderate, normal, ultra, off

Other BNC socket for external wordclock, serial port

The universal favourite even

VS-1880

- 18 track digital recording workstation with 288 virtual tracks
- 28 channel, fully automated digital mixer (18 tracks + 10 input channels)
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Millennia Media NSEQ-2 and TCL-2

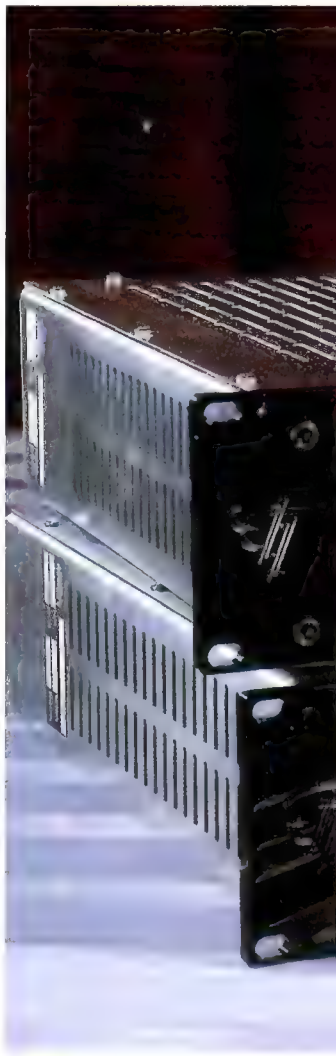
Parametric EQ and twin compressor

Prices see boxes

For Both NSEQ-2 and TCL-2 are stunningly neutral processors › Valve/solid-state option is a real bonus › Stylish and extremely well-constructed

Against Pricey › Both units are suited to mastering rather than surgical procedures

Verdict Millennia's 'Twin Topology' units are likely to find their way into the hearts and studios of the music-making world



The renewed interest in valve equipment over recent years shows no signs of letting up, and to support this demand a number of (mostly U.S.) manufacturers have established themselves as leaders in top-quality processing. Companies such as Manley, Summit, Avalon and Millennia are now accepted as the valve gear manufacturers of choice.

However, with some of these designs, it can be a little difficult to know how much of the process is actually valve-based. In rather a novel move, Millennia Media's 'twin topology' processors – first seen last year – incorporate two completely separate signal paths. This cleverly allows the user to choose between either class-A valve circuits or class-A solid-state circuits.

Now this may seem a little indulgent, but if anything it allows Millennia to target their products at high-end users irrespective of their personal preference for valve or solid-state. The two units in the 'twin topology' range are the NSEQ-2 parametric EQ and the TCL-2 opto-compressor/limiter. Both are two-channel units.

When these first appeared last year they were available with brushed aluminium cosmetics and a front panel design very reminiscent of Focusrite's Red series. The units supplied for this review came in the more sombre but no less sexy gloss black finish. The NSEQ-2 also featured the new mastering modification of detented gain controls and balanced inputs.

Overview

The valve and solid-state circuitry on offer can be selected individually for each channel. The NSEQ-2 is a twin-channel, four-band parametric EQ. The two middle bands have swept frequencies and variable Q, with the two outer bands offering bell or shelving options at a selection of fixed frequencies.

Gain can be switched globally for each channel to ranges of either ±20dB maximum or ±10dB maximum. With the mastering option installed, each gain knob has ten notches of gain on each side, allowing easy selection of a defined amount of gain. Valve or solid-state operation is switched individually for each channel, and there is a master switch for switching each whole channel into the circuit. Additionally, each EQ band has its own selector switch.

The TCL-2 Twincom opto-compressor/limiter is also a twin-channel processor but can be linked for stereo operation. The front panel controls are pretty much as you would expect, with duplicated threshold, attack, release and ratio controls along the top and two large knobs controlling output gain at the bottom.

Two large VU meters dominate the centre of the front panel and these are switchable between output level and gain reduction. And again, each channel can be individually switched between valve and solid-state. The TCL-2 under review here did not have detented controls, so a quick output line-up would be necessary if you were using the unit across a stereo signal. However, like the NSEQ-2, detented controls are available as an option.

NSEQ-2 parametric equalizer

Aside from the valve/solid-state design of the NSEQ-2, Millennia have paid a great deal of care and attention to component choice. As you may expect, connectors, relays, switches and tube sockets are all gold-plated. However, a quick look through the lid reveals a host of branded components such as Electrocube capacitors and Vishay pots. Combine these with oxygen-free audio cabling and silver/Teflon power cabling and you've got an attention to detail that is not often seen in equipment construction.

However, important though component choice is, it would be foolish to dwell on these points. More important is the actual philosophy of the circuit design.

words **Jon Musgrave** images **Gavin Roberts**

CD info

track 09
A drum loop and synth sequence are given the Millennia treatment

prices

- TCL-2 opto-compressor/limiter: £2,109
- NSEQ-2 parametric equalizer: £2,291
- Mastering option (detented controls): £558
- Balanced input for NSEQ-2: £323
- Platinum cosmetics option: £205

A lovely pair: with the Millennias' 'twin topography' circuitry you can choose between valve and solid-state processing

Firstly, both valve and solid-state circuits are transformerless and therefore avoid the colouration of transformer designs. Secondly, there's only one active amplifier stage, which again reduces the opportunity for unwanted colouration.

All that remains is to choose between the J-FET path and triode path, safe in the knowledge that both are as audiophile as one can get. Both valve and solid-state options offer the same gain and frequency options.

For the low and high bands this is at selectable frequencies with shelving or bell (Q = 1.0) characteristics. The two mid bands have continuously variable frequency and bell width (Q = 0.4 to 4.0), and to allow more accurate frequency selection, they have two scales accessed via the x10 button. All the buttons have a reassuringly solid feel and are backlit, so just a glance at the front panel tells you which EQs are active. Also reassuring is the inset power switch at the right-hand end of the front panel, which should avoid any unexpected switching off.

As you would expect on a unit containing valves, the power supply is very important, and in fact most of the right half of the NSEQ-2 is taken up by the power supply. Source power is via the standard IEC cable, and can be switched between 120V and 240V. Also round the back is an earth jumper, which allows you to disconnect the audio ground from the mains earth (although importantly without affecting the chassis/earth connection). Unlike the TCL-2, the standard NSEQ-2, although supplied with XLR connectors, is actually unbalanced, although the mastering version on test here incorporates a balanced input stage option.

TCL-2 opto-compressor/limiter

The physical characteristics of the TCL-2 opto-compressor/limiter are very similar to those of the NSEQ-2, with the same backlit buttons and solid selector knobs. However, the front panel is centred around the rather striking VU meters. As with the NSEQ-2, great care has been taken with regard to component choice. Relays, connectors and tube sockets are all gold-plated with oxygen-free audio cabling and silver/Teflon power cabling.

The circuit design of the TCL-2 shares much with the NSEQ-2, and again the design is transformerless and includes only one amplifier stage. In fact, overall gain within the unit amounts to no more than

Two's company

As well as the two units on test here, Millennia's 'twin topology' range will soon include a rack channel strip, the STT-1 Origin. This essentially incorporates a mic/line/DI stage, compression, parametric EQ and de-essing with the same valve or solid-state option as the units tested here. When it hits the streets, expect to pay around £2,232.

Aside from the 'twin topology' range, Millennia also make a range of mic preamps in both solid-state and valve designs. The HV solid-state series make use of transformerless designs and other options including 20/24-bit outputs and support for B&K 130V mic supply as well as standard phantom power.

If you're after a valve mic pre, the M-2b is a two-channel transformerless valve design. Again there is support for B&K's 130V supply as well as phantom power, plus a DC-coupled option for use with dynamic/ribbon mics.

If you fancy something a bit more flexible, Millennia also make the Media Mixing Suite, which is a modular system that comes in a 4U rack with external power supply. Each rack can house 11 modules from a choice of mic, line, auxiliary and master. The system is compatible with the Massenburg 'MRI' [illegible] rack system, so you can mix and match modules if you want.

specs: NSEQ-2

Low band
20, 34, 56, 100, 180, 270Hz

High band
4.8, 5.8, 8.0, 10, 16, 21kHz

High/low band Q
1.0

Low-mid
20Hz to 220Hz/
220Hz to 2.5kHz

High-mid
250Hz to 2.5kHz/
2.5kHz to 25kHz

Variable Q
0.4 to 4.0

Gain
±20dB or ±10dB

THD 20Hz to 30kHz
<0.009%, typically 0.002% all EQ in

Max input level
+28dBu (valve)
+24dBu (FET)

Max output level
+28dBu (valve)
+24dBu (FET)

Noise (boost/cut at 10dB)
-104dBu (FET)
-94dBu (valve) EQ in

Dimensions
483 x 318 x 89mm

Power consumption
40W

NSEQ-2: a glance at the backlit front panel tells you which EQs are active

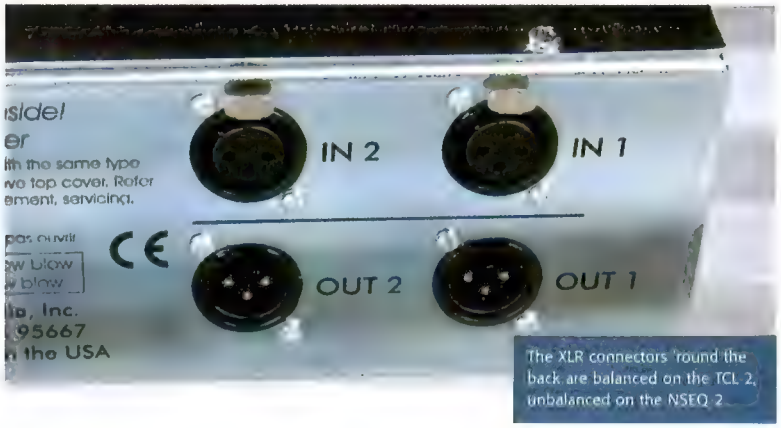
20dB, meaning that the TCL-2 works best when it is being driven by a reasonable +4dB signal, so you won't have much success connecting it to a –10dBu source.

Unlike the NSEQ-2, the signal path is fully balanced from input to output – at no stage does it become unbalanced. Again, this removes the need for any additional transformer or sound-colouring components.

The compressor/limiter circuit is an 'opto' design. However, rather than use a VCA for level control, a passive resistor circuit is controlled by a light-dependent resistor (LDR) array. The result of this is that the audio signal doesn't pass through any additional sound-colouring components.

To continue on the sonic purity tip, rather than employ relays to achieve audio bypass, the TCL-2 simply switches out the sidechain circuit, so that the signal continues through whichever 'topology' you've selected (valve or solid-state).

Like the NSEQ-2, both solid-state and valve operation have the same controls. For the TCL-2 these are threshold, attack, release, ratio and output gain. The attack and release figures are not the fastest on the planet: attack is continuously variable from 2ms to 100ms and release from 100ms to 3 seconds.



The XLR connectors 'round the back are balanced on the TCL 2, unbalanced on the NSEQ 2

A reasonable threshold range of –20dBu to +20dBu, and ratios of 1.4:1 to a rather serious 30:1 are available. A look through the lid of the TCL-2 reveals a similar layout to its EQ sibling, with power supply on the right and circuit board on the left. However, the TCL-2 does appear to have three valves per channel rather than the two per channel of the NSEQ-2. The back panel is identical to the EQ, with the same power and earthing options.

In use

The first thing you notice with the Millennia units is that their construction is very solid. Given the size of the power supply occupying the right-hand end of both compressor and EQ, it's also hardly surprising that they are quite hefty (just over 11kg apiece).

The user manuals also make it clear that gaps should be left above the units to allow proper ventilation. Even using the units out of the rack for a few hours generated quite a bit of heat around the vents above the valves, although not around the power supply. The user manual also suggests a minimum warmup time of half an hour before you start using the Millennia processors.

So with the warmup period suitably adhered to, it's time to put these units through their paces. Starting with the NSEQ-2, your first inclination is to try the unit across a mix to add some extra sparkle, and given that the natural state of the NSEQ-2 is valve circuitry, this is the mode you are most likely to try out first.

Thanks to detented gain controls and switchable frequencies for the top bands, it proves very easy to add, say, 4dB at 10kHz with a shelving characteristic. With the default gain range of ±20dB, it's also easy to go quite a bit further. Millennia suggest using the ±10dB option for general musical EQ'ing and the more severe option when serious surgery is required. So for mix sweetening it's probably best to stick to the ±10dB option, with each notch equating to 1dB of gain.

Having achieved the desired result with the top and bottom bands, it's time to try switching to the solid-state circuitry and A/B the differences directly. As part

With care, the TCL-2's four independent controls can be set up for accurate stereo operation

of its design, there's a momentary muting when switching between circuits.

At first the differences aren't amazingly apparent, and if anything, this is down to the transformerless path used in both circuits. However, switch back and forth a few times and differences are there, it's just not immediately apparent what they are. In order to get a better idea of the difference, it's possible to run one channel as solid-state and one as valve. If anything, this shows the solid-state circuit to be slightly more neutral than the valve, but the difference is tiny.

Getting subjective for a moment, the solid-state option is definitely more clinical, and the valve option more engaging, but only when you start to push the EQ a bit further.

This triggers a move to the mid bands, with their swept frequencies and bell widths. Trying the sharpest Q option of 4 and sweeping the frequencies with a high gain proves that although powerful, the sharpest Q is not stunningly sharp. Having said that, it will prove perfectly useful in all but the most extreme situations.

The character of the mid bands itself is very pleasing, and the x10 option allows the scales to cover their respective frequencies with good accuracy. With the ±20dB option in use, the NSEQ-2 offers some pretty staggering EQ, but achieves it without imparting too many undesirable characteristics in the process. So all in all, it's a very neutral-sounding EQ (whether used in valve or solid-state modes) ideal for critical situations such as mastering or pre-mastering.

Moving on to the compressor/limiter, again the temptation is to put it over the mix. The review version didn't have detented knobs, so a quick lineup was needed first. Using the TCL-2 straight off in stereo mode required some reference to the manual to find out what is linked by the stereo link option. Millennia suggest performing a lineup anyway. In essence, when linked, both channels compress by an amount dictated by the channel with the most compression activity.

The four controls (threshold, attack, release and ratio) remain independent, so a little care needs to be taken to get accurate stereo operation. Of course, once set up the results are excellent, and given that the TCL-2 is an opto design, its characteristics are quite gentle.

Used across the mix output, best results are achieved by keeping gain reduction in the 5dB area, but even when pushed hard the results are pretty good. Again, the natural state of the unit is valve operation, so switching to solid-state proves quite interesting. At high levels of compression there's definitely more saturation in valve mode, but again, the overall effect is surprisingly neutral. As a program compressor/limiter the TCL-2 is definitely a class act, but wouldn't really be much use if you were after a fast attack unit. Using the NSEQ-2 and the TCL-2 in series showed the combo to be the perfect mastering or pre-mastering set-up.

Verdict

The Millennia processors are very difficult to fault, especially now they're available with the detented control modification. Even if they only offered one circuit option they would be good, but the valve/solid-state option really is a bit of a bonus. Although most of the new manufacturers in high-end mastering appear to be from the U.S. these units seem to have more in common with the Prism/Maselec EQ and compressor. When it comes to choosing units of this quality it really becomes a matter of personal taste, but UK facilities would be wise to take the plunge…

More from: The UK Office, Berkhamstead House, 121 High Street, Berkhampstead, Hertfordshire, HP4 2DJ Tel: 01442 870103
Web: www.theukoffice.com

specs: TCL-2

Threshold
-20dBu to +20dBu

Attack
2ms to 100 ms

Release
100ms to 3.0 sec

Ratio
1.4:1 to 30:1

THD: 20Hz to 30kHz
<0.01%, typically 0.002%

Max input level
+30dBu (valve & solid-state)

Max output level
> +32dBu (valve & solid-state)

Noise: 20Hz to 22kHz
-87dBu (solid-state)
-82dBu (valve)

Dimensions
483 x 318 x 89mm

Power consumption
55W

TC Electronic D•Two

Dedicated delay FX box

Price £459

For Brilliant rhythm tap functions ⓘ Sweet delays and effects ⓘ Easy-to-use interface

Against Information is a bit cramped on the LED display ⓘ Just 100 user presets could be limiting ⓘ Build quality could be improved

Verdict A cracking unit for the money – truly innovative for a delay processor

THE MIX EDITOR'S CHOICE

In times gone past, people would go to ridiculous lengths to get that extra-special delay effect, such as the Australian who went into the Outback to record echoes in a distant canyon. Today's recordists, however, generally don't have the time (or inclination) to go to such extremes, and expect both speed and quality from their digital delays, whether they're of the soft or hard variety. TC's new D•Two aims to provide both of these, and with the company's impressive track record we shouldn't be disappointed.

Overview

To look at, it's yet another £500 worth of 19" black box and buttons. Underneath however, it has some pretty nifty features, such as 24-bit AD/DA converters, digital I/O on S/PDIF, 24-bit internal processing and balanced 1/4" TRS jacks on input and output. MIDI lovers get the usual three options of In, Out and Thru and there's also a pedal socket sitting amongst the aforementioned which can recognize two pedals simultaneously – one on the tip and the other on the ring of a jack connector. You'll need to make up a hybrid cable to do this, but it could be handy.

With a single pedal you can control tempo and rhythm together. But then you'll need a pedal with a stereo jack on the end (which isn't as common as one may think), the tip of which can be set to control Bypass or Rhythm Tap from the unit. The ring controls Tap Tempo only. If you want to have individual control of functions you would need to do the strange cable thang and split the paths.

The front panel consists of several parameter controls: the basic power on/off, an input level control and a mix button, which adjusts the global mix between wet and dry. Input meters show levels of left and right signal between 0 and -40dB and also have overload indicators. A large delay time indicator beams away at you along with other more detailed displays showing things such as edit icons and dynamics meters. There's also a nice 'Factory/User' icon indicating which of these modes you are operating in, as well as visual representations of sample rate, MIDI in, feedback percentage, feedback repeats and filters, which help during the use of this machine.

The rest of the keys are as follows: Delay/Tap function key that when lit changes the delay time through scrolling the adjoining data wheel. When the key is tapped D•Two measures the time between the last two taps and calculates the delay time for the user.

The Feedback/Rhythm key has three uses, when lit the data wheel is changing the % of feedback applied. When the button is held down the data wheel changes the number of repeats. When you tap the rhythm key the unit will produce a pattern of up to ten taps – very neat. Effectively, this means you can tap in your own rhythms of up to ten 'taps', so no need to arse about setting percentage differences between delays.

The next set of function keys are the effect controllers. Spatial functions allow L/R channel offsets of up to +/-200ms and also phase reversal on any channel. Filters, chorus control, dynamics, ping-pong and reverse are all there and with a double-click on a button, detailed parameters can be accessed and edited to the user's own requirements.

A setup function gives control over global parameters and the store button is there to allow user setups and parameters to be stored in up to 100 user presets. Arrow keys allow movement around the display, and last but not least is the enter key to confirm operational modes, and a bypass key.

The bypass function is also smart – it has three modes to it… huh? Well the first is 'No mix' where the input is passed to the output directly. The second is FX input. This lets the FX sound be heard but not the direct input. The final mode is Output FX, which cuts out the effect but keeps the direct signal level. Not sure if all that is really needed – either you want it or you don't – but someone will find it handy.

In use

The great thing about the D•Two is that it's very much 'plug and play'. The factory presets are fantastic, with some really creative delay effects going on – these are a great starting point and get excellent results in no

CD info

track 10

Hear some of the D•Two's creative possibilities as the unit is put to work on drums, vocals and guitars – with manic results

words
Seb Pecchia
images
Katherine Lane-Sims

time. To get maximum use, however, you are going to need to start programming, for no other reason than there are only 50 factory presets. The best thing is to use these as a basis for your own creations and see what happens.

So what about that big display? It looks the business and is really easy to look at even if some of the detailed stuff is small – you'll either love it or find it too busy. The general programming of this delay is easy, especially if you're familiar with similar units. Everything is very accessible, almost idiot-proof.

The highlight of this unit has to be the tap functions that are available. These used to be features reserved for the expensive machines made by AMS years ago, but now they have emerged again, and this time with extra features. On the CD you can hear the drum loop clean and boring – pretty standard really. Then you hear the delay switched in, and wow! The second time you can hear the changes as we tap in the tempo to correct timing problems. Two taps is all it took and 'Bam' – you're there.

Next the Rhythmic function is used, and this is fantastic – it really allows you to liven things up. Tap in up to ten er… 'taps' in different speeds and rhythms and the D•Two matches the delay and then creates the rhythm as well – no more delay charts or calculators. This machine quantizes as well in tap mode so if you're doing vocals and the singer is sloppy you can use a D•Two to quantize to 1/8 note, tap in the rhythm of the track and sort out a multi-tap delay to put things back in order.

Filters and dynamics

Fundamental to some of the mad effects that can be achieved from this box are the on-board filtering and dynamics. Filtering can be set up, giving feedback-delay type antics to your sounds. Set the high and low-pass frequencies to roll off top or bottom end from the delays, then set the Filter Feedback thresholds as well so the repeats will brighten or darken over time, and hey presto! Instant dub-style madness all over the mix.

Dynamics control is not complex but it works. Basically it's a compressor that kicks in when a certain threshold level is reached by the input signal. However, to get into it there is a menu in which you can set up the threshold level, release time and 'damping' or compression level.

The chorus, flangers and reverse effects are subtle and sweet-sounding and of course you get good control from the mix wet/dry on the front panel which is useful if you're miles from the console. *And* it all syncs to MIDI – easy life or what?

Verdict

A cracking unit from TC. What looks like a simple delay unit becomes a very powerful and innovative tool around the studio, giving rise to exciting and easy-to-program possibilities. What a shame the unit doesn't have TC's usual build quality – hopefully they'll take our comments onboard and toughen it up a bit.

But other than that, this machine has loads going for it, with some really creative features. The tapping functions and quantize are personal favourites, and the MIDI-sync functions and hands-on control of parameters mean that those of you who like doing things on the fly will have hours of fun.

More from: TC Electronic UK, PO Box 25767, London SW19 6WE Tel: 0800 917 8926 Web: www.tcelectronic.co.uk

specifications

I/O connections
S/PDIF on RCAs, 1/4" balanced jacks

Frequency range
20Hz to 20kHz

Sample rates
44.1kHz/48kHz

Factory presets
50

User presets
100

MIDI
In/Out/Thru

Pedal
1/4" jack

Display
23-character, 280 icon LCD display

Behringer Magician and UltraGain

8-channel tube interface and tube mic/line preamp

Price Magician £657, UltraGain £657
For 'Trinitron' sound › They look great › Affordable
Against Bad ventilation › No bypass on the Magician
› No separate mic/line inputs on the UltraGain
Verdict If you're looking for that little bit extra, it's here!

Some of you (hopefully many of you) read the article in *The Mix* issue 74 where we took a look at the Behringer tube Composer, representing one of five new valve products from Behringer.

In this issue we will take a look at two more of these sexy Behringer boxes, the first being the Magician T1950. The principle of the Magician is to provide eight channels of valve interface – no compression, no EQ, no mic amp – just a simple valve interface. It's a nice idea, although not an entirely new one, since TL Audio were the first to bring out such a device. It never really took off, although it had some very nice features such as their optional switching box which allowed you to switch the valves between tape input and tape return.

The Magician

So now we revisit the idea with the particularly lovely-looking tube Magician. It's a rackmount box that is two units high and has a brushed steel front. Along the front of the box you'll find eight small VU meters and below these, eight rather chunky Bakelite-like knobs. To the right of each meter is a small glass window which provides a rather nice view of each of the eight valves that are installed.

Behringer use the same 12AX7 triode valves as they did in the Composer. They may not be the cream of tubes but they're not bad at all, and each valve corresponds to one of the eight channels. The corresponding knobs have no real calibration, just the words 'cold' to the left and 'warm' to the right, which with this box is about all you need to know.

Lastly there's the chunky power switch to the far right. To the back of the Magician we find (as is usual for Behringer) both 1/4" balanced jacks and XLR for each channel, plus an IEC mains socket.

The casing seems strong, but as mentioned in the previous article, the only ventilation is via the base of the unit with the stencilled Behringer logo on top. The heat given off by this machine is surprising and requires the unit to be placed in a well-ventilated rack.

That's got the dull bit over with. Now for the interesting questions: what does it actually sound like, and does anyone ever actually need eight channels of valve interface?

As we said, the only thing available to fiddle with is a large knob (ooh, Matron!) which on first listening appears to do very little. However, once you switch it out you start to understand what is going on. When the control is set fully anti-clockwise it's in 'cold' mode and the signal is passed through the unit unaffected. As the control is turned clockwise there's a slow but audible increase in tube saturation with no apparent increase in gain output or noise, which we found quite remarkable.

The actual sound is very pleasant indeed. To describe it isn't easy, but essentially the sound becomes a little richer and thicker, yet more cohesive with an apparent extension to the top end. However when we looked at the results on a spectrum analyser there was no apparent change.

It's a bit like looking at a Sony Trinitron TV – afterwards, all other TV pictures look a little flat. The opportunity to have eight channels is fantastic. In fact, 16 would be better, because once the Magician was placed in our insert points it was never unplugged. It was constantly tweaked and was used across sound sources from live drums and drum overheads (where it proved to be very successful, making the cymbals sound polished and creamy), to drum loops out of an Akai S5000, where it's able to imbue a real sense of character to an otherwise uncharismatic loop.

words **Adam Fuest** images **Gavin Roberts**

The Behringer UltraGain (top) and Magician give an individual take on the classic tube sound

Tube flavour

Old tube equipment has become more inaccessible as the prices rise out of all proportion. Granted, a Fairchild compressor sounds great as does a Pultec EQ and if that's what you're after then the only way to get it (without getting a second mortgage) is to buy Tube-Tech or Manley equipment, both of which are largely modelled on the original equipment they emulate.

But if you're after just a flavour of tube, the choice is getting more interesting. Modern tube-designed studio equipment is now widely accepted. TL Audio have been producing valve equipment for some time and have had great success with it. The TL Audio EQ 1 is accepted as a classic, along with the C1 Classic Compressor, and this is reflected in the gradual increase in the price of these units, both new and second-hand.

More recently a hybridized range has appeared, and it is here that Behringer step in – not in competition, since their units do sound very different, but by adding an alternative colour to the pallette. Thankfully, Behringer have gone for something different and quite unique. It is equipment like this that can really raise the sonic standard of music made in project studios.

A side-effect is that when mixing, it is very easy to place anything that has been recorded with the Magician easily within the mix. Things just sound right very easily, requiring very little equalisation, which can only be a good thing.

In short, if you have a digital multitrack and lament the loss of warmth and cohesive nature of your old analogue gear, this box really is going to do it for you – it's a beaut! On the downside, individual bypass switches would come in handy – especially as they are fitted to just about every other piece of equipment you can buy.

UltraGain

The tube UltraGain is the second unit we're looking at in this review – a dual channel microphone and line amplifier employing the same Ultra-Tube circuitry as used in the Magician and the Composer. Why, we hear some of you ask, would you need a mic amplifier? You already own a desk and it has mic inputs, phantom power, filters, phase reverse switches and so on, and it sounds fine. Well, here are a few good reasons…

Let's start with microphones, in particular microphones that require phantom power. You may have noticed that the phantom power switch on most desks is labelled 48V. Most microphones do not use 48V, but voltages up to 48V. This power is made available to the mic inputs via a tape taken off the desk's power supply (this is commonly known as a rail). The quality of this power supply will dictate, to a large degree, the quality and performance of the mic amps on your desk.

Now, many manufacturers of budget consoles (anything up to about £20,000) make bold claims about the performance of their mic amps. Sadly this is usually the first place to cut corners on a manufacturing budget, and although the specs might look good on paper, they don't always sound as good in practice. In the heat of a session with ten or 20 microphones up, half of which could be munching into that phantom power rail, you'll soon start to notice a lack of clarity and definition in the sounds you are getting. You pay your money and you take your chances, but if you are using microphones a lot you will inevitably end up looking at outboard microphone amplifiers, and at that point you can start to spend a lot of money. Enter the tube UltraGain, at a price point that is hard to resist.

Cosmetically it follows the same style and format as the other units in the range, being 2U high and featuring the same brushed metal fascia. The front »

Turn the Magician's single control clockwise and hear the sound slowly become richer and thicker

panel features from left to right (and duplicated for both channel one and two) are as follows: a microphone/line switch followed by a +48V phantom power switch, then the gain trim pot with a range from +10 to +60.

The phantom power switch features a soft mute function, which avoids that annoying 'thump' – you know, the one that happens when you've turned up your monitors to hear if the mic is working, you suddenly realise that you didn't turn on the phantom power, you flick the switch, then wince as you see the bass drivers of your NS10s jump an inch! Well it can't happen with this box.

To the right of that is a phase inversion switch and a variable high-pass filter. The high-pass filter (12dB/octave, adjustable from 12Hz to 350Hz) is effective, although we would liked to have seen that switchable between 12/24dB/octave. To the right of these are some more of those chunky knobs, one for output gain and the other for the Ultra-Tube circuitry. The gain is variable from -20 to +20dB, which is enough to cope with most situations, and the tube control is identical to that found on both the Magician and the Composer.

Above these are the meters for the outputs, plus the meters to show the warmth. Round the back you'll find dual inputs and outputs, available on both XLR and TRS jacks. The input is shared for both line and microphone inputs, which is a shame. Admittedly, this unit is going to be used primarily as a mic amplifier, but nevertheless, if it's to be mounted in a rack you would need to place the inputs on a patchbay, and by dong so you would be defeating the point of the purist signal path. Still, you can't have everything.

Sonically the UltraGain sounds great, providing an extremely clean and open performance and allowing certain microphones to really breathe. A pair of our Calrec CM50s that are often used for recording acoustic guitar and other stringed instruments were getting to sound a little shabby, but once plugged into the UltraGain they seemed to come back to life – it gave a depth and power to their sound that was really exciting. With judicious use of the tube control the guitar we recorded was able to go down without any extra equalisation, and it stayed that way in the mix.

Verdict

The Mix has now looked at three of the five units available in this range – the 'missing' two being the tube UltraQ (a stereo 4-band parametric EQ) and the tube UltraFX multiband enhancer. If they are anything like the first three units they are going to be winners, and we feel sure they will gain many fans in both professional and project studios.

This is not to say that there aren't better-sounding or performing equalizers, compressors or line amps out there, but what Behringer have managed to do is create a new range of units that have real character and a sound that can best be described as engaging, reliable, and predictable.

They are well-built and well-featured, barring a few gripes like the omission of bypass switches on the Magician, the lack of individual mic and line inputs on the UltraGain and the need to ventilate well to avoid China Syndrome in your rack. Lastly, they are affordable. Up here at Twin Peaks studio, we have decided to purchase all three review units, and will be ordering the other two.

More from: Behringer UK Tel: 01932 588826
Web: www.behringer.de

specifications

MAGICIAN

Inputs
Eight XLR and 1/4" TRS connectors

Outputs
Eight XLR and 1/4" TRS connectors

Warmth control
Eight independent knobs and meters

Power
IEC mains socket

ULTRAGAIN

Inputs
XLR and 1/4" TRS connectors (pair)

Outputs
XLR and 1/4" TRS connectors (pair)

Switches
2 x mic/line, 2 x 48V phantom power, 2 x switchable 12dB high-pass filter

High-pass filter
2 x tuneable – range from 12Hz to 350Hz

Phase
Switchable

Meters
2 x output gain indicators, 2 x warmth indicators

Power IEC mains socket

For a review of the Behringer Tube Composer, check out issue 74 of *The Mix*

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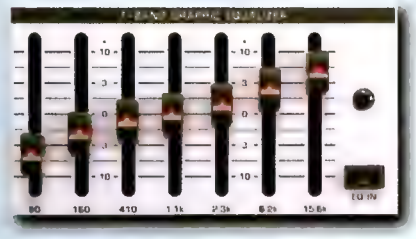

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Trident Audio S80 Producer Box

Classic preamp and EQ

Price £2,995
For Quality signal › Good old British EQ › Natural warm sound
Against Price › Outsize power supply
Verdict A quality mic pre to take with you wherever you go

The original Trident Series 80 console was introduced back in 1975 in response to the need for a 'rock'n'roll' desk: plenty of effects sends and an EQ that was radically creative rather than just correctional was what was called for. The boffs at Trident studios in London initially built the desk for their own use but then set up a team to produce them commercially when they realised what a good thing they'd got going.

That team has long since splintered (though we're still feeling the needles in these very pages) but one member was John Oram, a guy who'd cut his teeth at Vox with Ron Jennings before joining Trident as a consultant and designing the circuit boards for the Series 80. And it is John who has resurrected faithfully reproduced a pair of the original Series 80 channel strips, packing them into a very handy unit for producers to carry around with them.

What's all the fuss about the Series 80? Well for a period of seven or eight years it reigned supreme as the console all pro studios should have, a mantle since taken on by SSL. A lot of the mega-selling albums of the '70s were recorded on it, including those by artists such as Elton John, Queen, Genesis, David Bowie, T Rex and Bob Marley.

What people liked about the desk then was its sonic character and very musical EQ. It wasn't aspiring to a flat frequency response like Neves were, though they had periods of creating an enhanced sound and remain very popular as mic pre's. It was designed to sound good, never mind the kinks (no... not even going to try).

For anyone wanting to go retro and recreate the sound of that period a good way to start is with the 'original style' channel strip – that and a great big plate reverb in the back room. But it need not only be for a retro sound. The musical character of the Trident gives an ideal front end for any digital system, which is unlikely to give anything itself – at least not until we come to the 8-bit digital revival.

The Series 80 is remembered for its warm, open sound and airy top. At the time end listeners were only just beginning to be able to reproduce top-end on their hi-fi's, so the Series 80 was party to the revelation, helping the hi-fi sound with a warm, fat bottom end.

Overview

In outline the S80 is a pair of transformer coupled mic preamps with EQ and a pair of 100mm long-throw faders with panpots, all neatly housed in a natural ash case. Power is supplied externally from a PSU almost as big as the channel case itself, which makes it all slightly less handy.

Look inside and you'll see all the old circuit construction methods: a move back from the fiscal-friendly surface mount technology predominating today. Each component has been matched part for part with the ones from the '70s. The only part that couldn't be sourced was the transformer whose designer had shuffled off this mortal coil. Not to be defeated, the designers took apart an original and cloned every detail, right down to counting the coil winds. They drew the line at adding cigarette ash and engineers' fingernails.

Most of the things you'd expect to find are there: 48V phantom power, phase reversal switches, switchable input source. There isn't a pad on the input but there's a huge gain range (0-60dB) on the mic input and ±10dB on the line input. All connections are balanced, with the line input having XLR and 1/4" TRS.

Between the input amp and the EQ is a balanced insert, one of the few modernisations from the original, which had unbalanced inserts. Another addition is the direct outputs (again both XLR and 1/4" TRS, balanced).

In use

For this review the S80 was A/B-ed with a later Trident Tri-mix module which is identical to the Series 80 except for a slight alteration of the shelf frequencies of the top and bottom EQ bands. The old Series 80 module was sadly feeling its age at the time. The »

words **Tim Oliver** images **Gavin Roberts**

The Oram story

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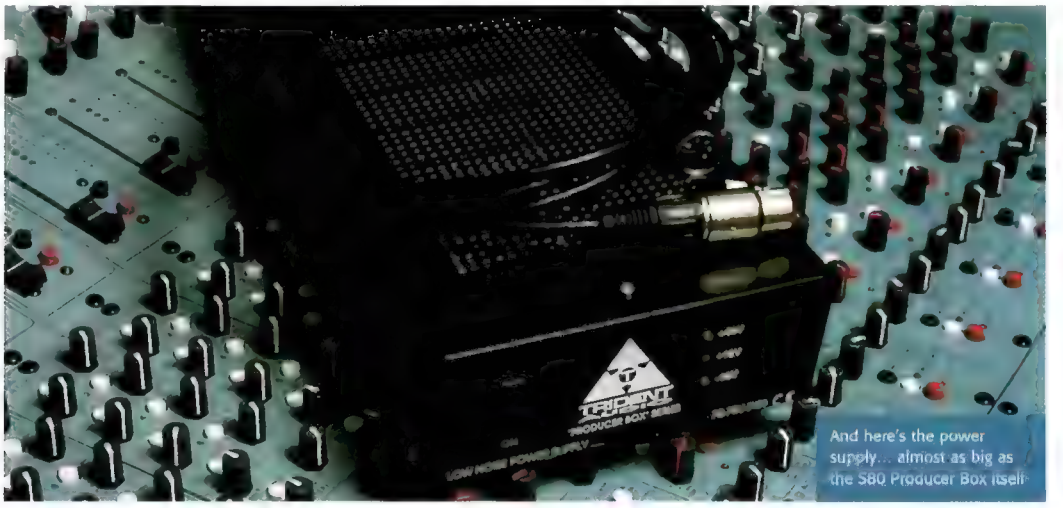

And here's the power supply... almost as big as the S80 Producer Box itself

features

- Mic gain: 0 to 60dB
- Line gain: -10 to +10dB
- Input source switch
- 180° phase reversal
- Hi-freq shelving 8k or 12k
- Hi-mid sweep from 1kHz to15kHz
- Lo-mid sweep from 100Hz to 1k5
- Lo-freq shelving 60Hz or 120Hz
- Mute
- Panpot
- 100mm fader

comparison is a good one though, and on first listen they appeared identical and with the EQ switched out, they undoubtedly were.

Plug anything into it and, just like the old Neve desks, you immediately feel good about the sound without having to resort to forced enhancements. The gain structure is the same, with plenty of it. The EQ section is a true reproduction except for the layout, which is a mirror image. All the features are the same: a semi-parametric design with top and bottom shelving curves and two sweepable ranges covering all frequencies between them.

The top shelf switches between 12K and 8K. The former gives great air to the sound, opening it up beautifully, while 8K adds a more tangible brightness. With the different shelving arrangements there wasn't a direct comparison to be made, but for pedants, the S80 seemed to have a slightly greater level boost even though both quote 15dB.

The two sweep EQs are the same and had very similar character. Matching the frequencies of the two units by ear was simple and it wasn't possible to tell the difference 'blind'. Looking at the dial settings, the two showed different frequencies – for example, 2K on the channel strip was the same as 3K on the S80. Without having 'perfect tone' it's impossible to say which is correct without connecting up a scope (probably neither exactly), but does it matter when you use your ears rather than your eyes?

This sort of comparison did show up a greater amount of boost on the S80 as well as slightly different cut/boost curves. The S80 has a very slow start, followed by a much steeper arc. But though physically they were minutely different, the sonic character was identical. Perhaps a key to the musicality of this EQ is its very natural fixed bandwidth: any cut or boost at any frequency never sounds lumpy or notchy and it always sounds smooth without harshness or abrasion – even at extremes.

Verdict

In America, a producer wouldn't be seen dead without a few racked-up vintage mic pre's. It makes sense because you know that wherever you end up you can always get a consistently good signal to disk or tape. Things are a bit different here, where producers tend to collect esoteric noise creators, but the idea of having a guaranteed quality signal regardless of environment will soon catch on.

Combine the S80 with a good microphone or two and a Pro Tools rig and you can just about set up anywhere and record to master quality. If you're an engineer who used to work on Series 80 desks you might well want to re-visit that experience (if you're not deaf by now). If you're fresher, you'll probably wonder what all the fuss was about until you sit it beside the input of your modern desk for comparison.

More from: Oram Professional Audio, The Old Forge, Hook Green, Routham Road, Meopham, Gravesend Tel: 01474 815300
Web: www.oram.co.uk

Lexicon MPX500

24-bit dual-channel FX processor

Price £449

For Great reverbs ⊙ Easy to use ⊙ Good MIDI implementation

Against Routing not as flexible as similarly-priced competition

Verdict An excellent-sounding unit with a well-thought-out user interface

It seems virtually impossible to read about a Lexicon product without there being some reference to their high-end processors, and rightly so. The likes of the 224, 480 and PCM series (currently at 81 and 91), have established Lexicon as the market leaders for quality reverb processors.

But while these units have gone from strength to strength, Lexicon have always offered scaled-down products aimed at the project user. Processors such as the LXP series, the Vortex and Alex and now the MPX series have all claimed to offer that special Lexicon sound at a fraction of the upmarket price. Of course, the question has always been whether these budget units compromise quality to a point at which they are indistinguishable from the competition.

For the most part, Lexicon's cheaper gear has always proved to be good value for money. The release of the MPX100 18 months ago (*Editor's Choice* in *The Mix* issue 51) really did up the stakes for quality reverb at budget prices. Whereas the MPX1, which was the first of the MPX series and now retails for around £600, still holds its own as a powerful multi-FX unit offering up to five simultaneous effects. So the question is, what features does the new MPX500 offer and how does it fit into the expanding MPX range?

Overview

The Lexicon MPX500 is a dual channel (and true stereo) effects processor, offering a range of routing configurations and two simultaneous effects. There are six reverb types as well as tremolo, rotary, chorus, flange, detune, pitch-shift and delay, arranged into 240 presets with an additional 30 user locations.

The effects are supplied courtesy of the same 24-bit 'Lexichip' found in the previous MPX units, but new to the MPX500 are 24-bit A-D and D-A converters. These are complemented by S/PDIF I/O for those who want to connect to digital equipment.

Physically, the MPX500 shares some characteristics with the MPX100, such as knob and button styling, but the front panel is dominated by a backlit LCD screen. In a move which is new to Lexicon, parameters are adjusted using one of four knobs to the left of the screen, corresponding to the four parameters displayed at any one time along the bottom of the screen. With up to 16 editable parameters, a page button is provided to aid navigation.

The physical similarities to the MPX100 disguise the more professional nature of the MPX500. Audio connections are balanced and available on both XLR and TRS jack, and mains is on the standard IEC socket rather than external PSU, which is welcome.

There are MIDI in and MIDI out/thru sockets, with the second of these being software-selectable. The only other things on the back panel are a footswitch jack socket for bypass or tap functions, and the screen contrast (although why the screen contrast has to be on the back is anyone's guess).

Cause and effect

The MPX500 has a number of things in common with the MPX100. Most obvious is the arrangement of the effects into banks. These are now selected by pressing the large rotary knob to the right of the screen, and turning it for a specific patch. The banks are also arranged according to the routing set-up used.

The first 13 banks (104 presets in total), are single effect patches (see *Effects* box, opposite). The remaining 11 banks offer two effects with a choice of four routing options. These are stereo in and out in both parallel and series, dual mono in and stereo out, and dual mono in and out. In line with their new knob-editing system, knob three controls the balance or crossfeed between effects, depending on the type of patch in use.

The main MPX500 screen displays quite a bit of information, including the input mode and levels, sample rate, patch number and source algorithm. Four main parameters are also listed along the bottom, with others accessed by pressing the page button.

words **Jon Musgrave** images **Gavin Roberts**

specifications

Analogue I/O
2 x TRS jacks/balanced XLR

Digital I/O
S/PDIF

Conversion
A-D and D-A 24-bit

Input dynamic range
105dB

Output dynamic range
101dB

Input and output crosstalk
-96dB@1kHz

Sample rates
44.1 and 48kHz

Dimensions
483 x 45 x 102mm

All system settings are accessed by pressing the system button and using knob one to page through the parameters. This is the first stop if you need to select digital inputs, or left/right mono-only input. Also found here are sample rate settings (44.1kHz or 48kHz), output level as noted above, bypass modes and MIDI set-up. As seems to be the norm these days, a number of bypass options are available, including the standard bypass where the dry signal passes through, total mute, and input-only mute, which allows the effected signal to continue unhindered.

Rather than have switches for operating levels, the input trim knob at the left of the front panel covers the whole range from +4dBu at its fully anticlockwise position to -10dBv when fully clockwise. Output level, on the other hand, is set within the system pages, with zero being +4dBu and -12 being -10dBv.

The MIDI spec for the MPX500 is very good and includes a selection of programs, control of all 16 parameters via continuous controllers, activating bypass and tap, tap selection via MIDI clock, and MIDI data dumps. It's often the case that MIDI implementation of effects processors is confusing and badly-implemented. Thankfully, the MPX500 makes using MIDI controllers a complete doddle (see the *MIDI Control* box over the page for more on this).

In use

For MPX100 owners, the user interface of the MPX500 will come as a welcome relief. With all the parameters easily accessible, there's no longer any need to refer to the manual for a list of what characteristics are changed by the adjust knob. However, there are certainly some benefits in having one knob modify a number of parameters simultaneously.

Lexicon have assigned knob one to this role on the MPX500, and because the parameters become highlighted once changed, it is really easy to see what's going on. In fact, when you return to the original parameter, the highlighting goes away, along with the edit light on the page button – another nice touch.

People familiar with the PCM series will recognise the 'load' button, which makes its first appearance in the MPX range. This is now modified so that when you page through to find another patch, wherever you stop remains cued for the next 'load' command –

effects

- 6 banks of reverbs: 9 plates, 10 gated reverbs, 10 halls, 10 chambers, 10 ambience, 10 rooms
- 7 banks of single FX: 5 tremolo, 5 rotary, 5 chorus, 5 flange, 5 detune, 5 pitch, 15 delay
- 7 banks of dual FX programs: 10 of each, flange + delay, pitch +delay, chorus+delay, delay+reverb, flange+reverb, pitch+reverb, chorus+reverb
- 2 banks of mono split effects, 15 of each: delay, reverb
- 1 bank of dual programs: 15 patches
- Special FX bank: 15 patches

[illegible] is made [illegible] MPX500's hands-on approach

CD info

track 11
Check out a selection of MPX500 FX

MIDI control

One thing Lexicon have got really sorted is MIDI implementation. With MIDI patches and program changes enabled in the system pages, the world is your oyster. Bank selection is achieved with controller 32, and then program change messages can be used for specific programs.

But it's the case of setting up continuous controller patches that really stands out. The MPX500 allows you to assign pitch bend, aftertouch and controllers 1 to 31 and 33 to 119 to each of the parameters. What's more, because it has a 'learn' facility, you can see straight away whether it's working.

Holding the tap and store buttons gets you into the appropriate page. Once there, simply use the page and knob buttons to get to the parameter you want to control, and send a burst of the continuous controller. Use the knob to select the range of the MIDI controller, hit the store button and it's done.

It really is that simple, and it works. Other useful MIDI facilities include using MIDI clock to set tap tempo, and the usual selection of MIDI dump options.

an invaluable feature if you need to make program changes during a performance. Once you have selected and loaded your desired preset, a few parameters need to be sorted before you can get started. These include input mode (mono/stereo) and source (analogue/digital), which are selected within the system pages. Balance between wet and dry signal is also relevant and depends on whether you're using the unit in series or in an effects loop. The MPX500 has two options, again selectable in the system pages, which allow for the wet/dry mix to be saved with the patch or be determined globally.

With the unit up and running, first stop has to be some of the reverb patches. These prove to be of a very high standard, definitely benefiting from the 24-bit converters. But two things immediately stand out. Firstly, there is good implementation of the 'tap' facility, with a number of reverbs having tap predelays. Secondly, the naming of the presets is excellent.

This may sound like a minor point, but on some units you have to page through a lot of strangely-named presets or ones that when loaded bear no relation to their name. The MPX500 offers clearly-named reverb presets that sound stunningly realistic. For example, Marble Foyer makes great use of the 'ambience' algorithm with a 'liveness' factor assigned to knob number one.

The church and hall presets are equally convincing. With the 'tap' and 'adjust' facilities carefully assigned within the reverb presets, fast adjustments are also very easy. Overall, the reverb presets sounded wonderful, exhibiting a density and richness found in few other units at this price.

In an A/B comparison with TC Electronic's M•One, both units were very similar – uncannily so – but the clear naming and 'adjust' facilities gave the Lexicon the edge if you only need one reverb for the money. Of course, the TC unit offers two reverbs at the same time, giving it the edge for flexibility.

The non-reverb banks also proved to be of a high standard. Again the tap facility is well-implemented on the tremolo and some of the rotary presets for setting speed. The adjust knobs also play some useful roles in the rotary programs (see the CD demo). It was surprising to see no auto-panner preset, given the tremolo algorithm.

The chorus, flange, detune and pitch programs were all up to scratch, although these algorithms do play better parts in the dual effect presets. As you would expect, the delay presets made good use of the 'tap' facility, offering a variety of mono and panning delays, with a maximum mono delay time of 5.5 seconds.

Probably the most interesting presets on the MPX500 are in the Special FX bank. Patches such as Infinite and Dream Sequence, which combines pitch and reverb, are well-programmed and demonstrate the creative possibilities of the MPX500 (once again, check out that CD demo!). What's more, because the screen displays the source algorithm, it's easy to see the building blocks present.

The dual effect programs combine either a delay or reverb algorithm with a flange, pitch or chorus one. This means that it's not possible to run two reverbs or delays together. As mentioned above, TC Electronic's M-One definitely has the edge if you need two reverbs in one box. Having said that, the MPX500 dual programs are perfectly usable and well-programmed.

Verdict

Given the price, it would be easy to assume that the MPX500 couldn't possibly compete with units such as the PCM91, but that gap is definitely closing. With cheaper manufacturing in the Far East (the MPX500 and MPX100 are made in China), the price of high-tech gear is constantly sliding downwards. Add to that competition from computer-based systems, and the news can only be good for the end user.

If a maximum of 16 modifiable parameters sounds a little stingy, remember that in the normal course of events the desire to tweak a reverb is substantially reduced if it sounds good in the first place. The MPX500 reverbs sound great and all the major parameters are very easy to change. Of course, the other option could be to start saving for the new Lexicon 960L, which will retail for a not inconsiderable £10,000!

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- Yamaha SCSI CD-RW Drive
- 56Kb/s V90 Fax Modem
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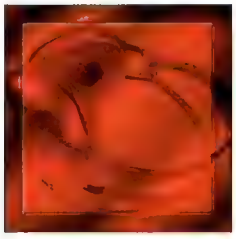


All the major album releases of the month reviewed and rated, our snap verdicts on the best of the rest, and our classic sessions spot *Milestones*

in brief

PETE LOCKETT'S NETWORK OF SPARKS FEAT. BILL BRUFORD *One* (V2 Records) A nice piece of tribal world music that will keep the grooves next door happy at chill-out time. Very pleasant. (PS)

VARIOUS *Hammond Heroes* (Verve) A fine set of B3 specials from the likes of Jimmy Smith, Georgie Fame, the Style Council, Brian Auger and other Leslie-legends. Worth hearing, even for non-acid jazzers. (PS)

A PERFECT CIRCLE *Mer De Noms* (Virgin) A big, axe-ravaged CD. US metal and Nine Inch Nails are two of the key inputs, which is perhaps what you'd expect from the LA-based band of guitarist-producer Billy Howerdel (who has tweaked dials with Bowie, Smashing Pumpkins and Nine Inch Nails). Strident but stirring. (PS)

RECOIL *Liquid* (Mute) Former Depeche Moder Alan Wilder wears his cut'n'paste hat, exploring the seedier side of life with the aid of Diamanda Galas, Nicole Blackman et. al. The results vary from the chilling 'Jezebel' to the OTT 'Chrome'. (SO)

THE BLUETONES SCIENCE AND NATURE (SUPERIOR QUALITY RECORDINGS)

Described as being the nation's last truly independent band (they run Superior Quality Recordings), the Bluetones have been pushing things in their own unique direction for some half-a-dozen years. This is their third album, augmented here by keyboardist Richard Payne, and pretty good it is too. Nice musical and mix touches abound on songs like the student-watching 'Tiger Lily', the eerie 'Mudslide' and the cynical 'Zorro'. Singer Mark Morris sounds better than ever on a set that should appeal to REM, Pre-Fab and Jeff Buckley fans as well as the regulars. • *Phil Strongman*

Producer: Jon Cornfield
Studio: Sawmills
Engineer: Jon Cornfield
Verdict: Very superior quality indie.....8/10

DA BRAT UNRESTRICTED (COLUMBIA)

Derivative is the watchword for this album from the rapstress who guested on Mariah's 'Heartbreaker'. The slick marketing ethic that produced Da Brat dilutes this to the point where the pseudo-sassy posturing sounds like a pale imitation of true she-ghetto grit. Jermaine Dupri's over-processed production sounds too plastic and pre-meditated to be derived from authentic hip hop inspiration and as a result, the competent guesting R'n'B crooners such as Kelly Price and Tyrese merely serve to further water down the impact. One for the fashion victims, methinks. • *Jon Andre Holley*

Producers: Various
Studio: Unknown
Engineer: Unknown
Verdict: Little more than toys outta da cot.....4/10

CYPRESS HILL SKULL & BONES (RUFFHOUSE/COLUMBIA)

Cypress Hill have sunk the image of the Jolly Roger pirate jock and returned with ruthless, brutal music. DJ Muggs, Sen Dog, Sen and B Real steal rock and soul's most wanted treasures and claim them as their very own. Accomplices SX10, Fear Factory, Rage Against The Machine, House Of Pain, Eminem and Noreaga assist the East Coast looters in producing a collection of vicious, beat-driven hip rock that makes Puff Daddy's Led Zep/Godzilla excursion sound like the *Bagpuss* theme. The best, most insanest in the membranest Cypress Hill album ever! • *Jon Andre Holley*

Producers: DJ Muggs, Sen Dog, Sen and B Real
Studio: Unknown
Engineer: Unknown
Verdict: Not the Pirates Of Penzance 9/10

EAGLE-EYE CHERRY LIVING IN THE PRESENT FUTURE (POLYDOR)

I really want to hate this record. Cherry seems as determined to take no chances as the most anodyne of Radio 2 DJs and the result is 12 slabs of three-chord-wonder guitar pop with stadium-bound sing-along choruses and no surprises. Unfortunately though, *Living...* is so well done that even at its most throwaway ('Burnin' Up' can't have taken more than ten minutes to write) it's a likeable release – the kind of record that has you organising the kitchen table into an impromptu drum kit and singing along without quite realising you're doing it. Damn. • *Simon Ounsworth*

Producer: Adam Kviman, Rick Rubin
Studio: Magic Shop (NYC), Decibel (Stockholm)
Engineer: Unknown
Verdict: Curse you, Eagle-Eye!.....8/10

LITTLE ROY
MORE FROM A LITTLE
(LION RECORDS)

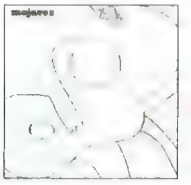
Little Roy has been a cult figure on the rasta scene for decades now. Influenced by Bob Marley's vocal style, Roy has made sought-after tracks before, but this is the first time he's had an album recorded by such a seasoned bunch of professionals as Ronnie Lion, On-U Sound's Adrian Sherwood and Funky Junk's Mike Pelanconi, and they've done an amazing job. Roy's lyrical strength and sweetness is perfectly captured on arrangements that have retained the best elements of '70s reggae. The dub bonus cut is, quite simply, magic. Well crucial. • *Phil Strongman*

Producer: Ronnie Lion
Studio: Lion, Brixton
Engineer/Mixer: Adrian Sherwood, Mike Pelanconi
Verdict: Little Roy's big-up breakthrough.....9/10

MOLOKO
THINGS TO MAKE AND DO
(ECHO)

Whether 'Sing It Back' was pop-dance genius or just one of those annoying tunes depends on your point of view. But it was definitely a Moloko red herring, because on the evidence of this third LP, the Sheffield duo are edging out of the dance world and making a bid for the 'quirky pop' market. Sometimes ('Somebody Somewhere') they pull it off, but mostly the constant wordplay and Roisin Murphy's determinedly eccentric vocal style seem to have no real purpose. Mark Brydon's production, though, is as expertly interesting as ever. • *Simon Ounsworth*

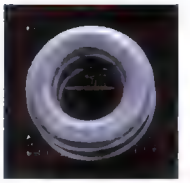
Producer: Mark Brydon
Studio: Unknown
Engineer: Mark Brydon, Matt Sime
Verdict: So-so Moloko 7/10



MOJAVE 3
EXCUSES FOR TRAVELLERS
(4AD)

A third studio outing for Neil Halstead and co. and again the Gram Parsons/Nick Drake comparisons seem inevitable. If *Excuses...* was any more downbeat you'd be checking the musicians for a pulse. For the most part, these guitar-based ballads are so similar that it's tempting to conclude that Mojave 3 are treading water. Even 'Any Day Will Be Fine', the nearest the LP gets to a rockout, bears more than a passing resemblance to Roxy's 'Love Is The Drug'. Existing fans will doubtless lap it up; everyone else will probably be twiddling their thumbs by track three. • *Simon Ounsworth*

Producer: Mark Van Hoen, Mojave 3
Studio: Fortress 1 & 2, Mojave HQ
Engineer: Various
Verdict: Would have made a good EP 6/10



THE ODD TOOT
MENTAL MONKEY
(HYDROGEN DUKEBOX)

Described as being 'cable TV on a CD', Simon Smith's genre-busting follow-up to his 1997 *Bampot* debut is intense stuff. Eccentric free-form beats come and go, people bash drums, shout and fall over before another sample wanders in and takes on the choon's mantle. Just when all the album's frantic madness starts to get predictable, Smith throws in the laid-back ballad 'Solid Gone'. A little goes a long way, but maybe that's half the strength of this particular *Mental Monkey* although, judging by the words, young Simon has indulged in more than the odd toot. • *Phil Strongman*

Producer: The Odd Toot
Studio: Hardway Centrall, London
Engineer: Simon Smith
Verdict: Scrambled TV on a CD 7/10

in brief

POLE *3* (No. 9) After *1* and *2*, here comes the imaginatively-titled 3, deconstructing minimalist avant-garde dub to ridiculous levels – perfect for those reflective moments of intense yet untroubled smokin'. Very nice. (DT)

VARIOUS *21st Century Ska* (M21) New and established artists contribute to this upbeat ska/two-tone stormer mixing old-skool values with... er... 21st century action, lending a certain credibility to a largely overlooked style that takes in bigbeat, breakbeat and dub along the way. (DT)

FINK *Fresh Produce* (Ntone) Mildly engaging yet largely forgettable meander through "music to shag killer bees to." Hmmm Dubby, jazzy, lazy collection with B-movie-esque snippets of dialogue adding some much needed (if short-lived) interest. (DT)

MILESTONES: 1975

HAMILTON BOHANNON
'FOOT STOMPIN' MUSIC'
(BRUNSWICK RECORDS)

Producer: Hamilton Bohannon
Studio: Various
Engineer: Hamilton Bohannon

Ray's
Jazz
Shop
180 Shaftesbury Avenue
London WC2H 8JR
Tel: 0171 240 3969

Amon Brother

words **Derek O'Sullivan** photos **James Cumpsty**

Taking a tip from the Europeans and Americans, the UK is finally waking up to Amon Tobin, who makes records that are totally instrument-free

Now in the run up to his fourth album, Brazilian-born sound scientist Amon Tobin seems more at ease than ever with the musical format which he and a handful of key innovators have consistently championed. Having struggled to establish the credentials of a style which challenges sonically and structurally as well as in its broader, conceptual sense, Tobin is in the fortunate position of being ahead of a game that at long last appears to have been validated.

His work as a *collageur* has taken sampling as near as damn-it to its logical conclusion by making totally instrument-free records; a compositional method that's simultaneously bewildering, innovative and, to the occasional cranky traditionalist, misconstrued as cheating. In truth however, Amon Tobin represents the very definition of a contemporary musician, unimpeded by the restraints of accepted form and empowered by technology.

> "My records have all been made completely from samples. I like to think I've moved on from using instruments"

Supermodified, Tobin's unnervingly accomplished album, is a luxurious lifetime-in-an-hour soundtrack which traverses moods and inner visions in a manner that few musical endeavours can. Drawing on the rich, resource of sounds which is anything and everything already committed to vinyl, it's a body of work demanding undivided attention; a characteristic which, Tobin recognises, won't please everybody.

"If you're trying to make interesting new music, you owe it to yourself to draw on as many good sounds as you can," he begins. "And maybe that can be confusing. I suppose when you start mixing things up then perhaps the point of it becomes a bit lost to some people. But then I don't make music for those people, so you can't really view what I do in those terms. Hopefully the music I make is appreciated by people who focus on listening."

And it's from exactly this kind of focused listening that Tobin's sound has evolved, as he explains: "I used to go through a lot of records, pick out parts I liked and then build on them. That's how my music was initially created. But as I've done more and more, I have a clearer idea of what I want from the outset, and now it's become a case of finding sounds to match that initial idea. You never find exactly what you're after, so it all gets a bit twisted, but I like that antagonistic process. It's laborious, but hopefully worth it."

Supermodified was some two years in the making, and as soon as your hear you pretty quickly understand why it took so long. The incredible detail in Tobin's compositions highlights the painstaking working methods employed in the album's creation, and it's this near-obsessive care over the minutiae which delights and rewards the attentive listener most. "The smaller the samples are, the more creative control you then have," he explains. "There has been the odd exception in the past where I've used a big sample, but the idea in those cases is that it's a recognisable thing but used out of context. For me, generally speaking, it's about manipulating small sounds and getting them to fit into your concept.

"Typically there might be 70 or 80 samples to a track, including all the chops and breaks, which can make it hard to keep on top of," Tobin reveals. "It'll never be a completely clean sound with my music because it's all third-generation material and when you start layering corrupted sounds, you end up with lots of static and erroneous noise. You can actually lose the melody completely when you're heavily layering, which is why I keep things as clean as possible with optical links between the sampler, the desk and the Mac.

"I went through a stage of mixing as I worked, but found it really destructive. You know, I might spend hours on, say, a perfect cymbal sound and then find that as the track developed the cymbal didn't sit with it, or maybe the whole thing wasn't happening and I'd wasted so much time early on. Nowadays I

Tools of the trade

Cubase VST

"I use Cubase VST and all the plug-ins I can get my hands on. I don't really find any use for the audio side of VST in the way I record, other than for recording full samples and processing them, then re-recording it into the sampler. I was looking at Pro Tools as a hard disk system, and it's really good of course, but even that doesn't really make sense for the way I record. With the breaks, for example, each of the components is assigned to a note, then I'll map different filters to different controllers.

"You can piece breaks together from a variety of records and make them quite fluid by adding the same filter to each of them, or alternatively you can apply a range of filters across the various parts. I still use a lot of handmade delays as well, which is something I learned to do when I didn't have any outboard, just by using velocity variations to emulate the effect."

Mackie D8B

"I got the desk relatively cheaply by doing the rounds of different retailers; it was originally supposed to be about seven or eight grand. It's been really good to me. I mixed most of the album [*Supermodified*] on a Yamaha 01V before I got the Mackie, but I wasn't so into the sound; I found the reverbs and the general tone of the Yamaha were quite harsh. I worked on two or three new tracks when I got the Mackie and ended up remastering a lot of the finished tracks on it. The sound quality's excellent; nothing sounds cheap or shoddy, which is important when you're using gritty source material. It's got its own hard disk, and monitor-based graphics for EQs and effects. Then obviously everything can be stored and recalled. I only use one layer of the desk, from the 16 outs from the sampler. It's just a really flexible piece of equipment which I'm unlikely to need to upgrade."

Akai S6000

"I've used Akai samplers since my first record, which was done on an S01 with 2Mb of memory and a screen with just a couple of digits of information. After that I moved on to an S3000, then the S6000. I didn't really transfer any samples from the S3000 to the S6000, because I never actually got round to using the S3000 in the way it was supposed to be used. I didn't use the multis or make proper programs; I just did everything the long way round.

"There were a lot of bugs initially on the S6000, and I'm still downloading new operating systems, but it's such a versatile machine to use. I like the fact you can edit in such detail, with really fine tuning and chopping, and the interface is so clean and clear. And I love the way you can pace around the room with this kind of Gameboy panel."

"It's become a case of finding sounds to match that initial idea"

"Typically there might be 70 or 80 samples to a track, including all the chops and breaks"

» tend to work the whole track on left and right and get the arrangement fluid, then spread the sounds at the end and work on the overall production. If a track stands up unmixed in stereo, you can only really improve on it when you start mixing."

Tobin is in fact a very capable multi-instrumentalist whose earlier releases showcase occasional cameos of his sax and piano playing, but his obsession with the sampler as the ultimate instrument has led him away from even this minimal 'live' contribution, and he is clearly unfazed by any of the tired arguments against integrity of sampling. "My records have all been made completely from samples. That's the running theme, if there is one," he elaborates. "I like to think I've moved on from using instruments. There are some really good musicians who feature in what I do, so I don't think I'm qualified to play on my records now.

"I tend to take the sounds which would have influenced me and use them directly," he »

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- Console
- Mackie D8B
- Recording
- Apple Macintosh G4
- Cubase VST 24
- TC Spark
- Processing
- TC Fireworx
- Mutronics Mutator
- Sounds
- Akai S6000
- Technics 1210 x2
- Vestax PMC06 mixer

With one hand on the decks and the other on the S6000, Tobin's totally in control

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"I went through a phase of mixing while I worked, but found it really destructive."

Discography by Phil St[illegible]

CUJO *Adventures In Foam* (Ni[illegible])
Born in Brazil but raised on the rainy shor[illegible] [illegible]ghton, sample-master Amon's first shot at the big time was this bluesy effort, written, produced and performed under the Cujo banner and mainly issued on double vinyl. Much of it starts in slow, hypnotic fashion with vocal loop[illegible] and layers of ancient percussion taking us back to the jazz age before 'inappropriat[illegible] keyboard pans and some serious jungle drumming remind us that this is, in fact, a late 90s recording gig[illegible] [illegible] use of vibes to conjure up moods has since become a Tobin trademark, making *Adventures*… a collector's item

AMON TOBIN *Bricolage* (Ninja Tune, 1997)
[illegible] described this as being not unlike "stuffing Lionel Hampton, Art Blakey and Mingus into a compression chamber" and they weren't far wrong. Despite its sedate "gentle strings of the countryside", there are plenty of jazzy squeals and energy rushes. After this release, comparisons were made between the new Ninja man and Italian [illegible] legend Ennio Mo[illegible] [illegible] as he played sellout shows [illegible] 3 months the Tobin tobogg[illegible]

AMON TOBIN *Permutation* (Ninja Tune, 1998)
[illegible] shop circuit, this outsold [illegible] and Massive Attack and it doesn't take long to hear why. Th[illegible] opener, 'Like Regular Chickens', sets the tone with its ever-shifting rhythms and shimmering string samples. 'Bridge' is faster and more jazz-orientated with its tumbling drums and relentless double bass loop; 'Reanimator' keeps the b[illegible] and the pulsing 'Sordid' takes us back to C18 territory. 'Nightlif[illegible] is an entire soundtrack in itself with tempo changes, snatches of drum'n'bass and obscure TV themes. On the whole, a definite mood-enhancer

continues. "It's all about making something new rather than recreating what's already been done so, for me, the sampling thing is a bit of a non-issue in that sense. If you think about it, someone who plays the guitar is doing pretty much the same thing. I don't think any musicians can claim to have invented any new notes or chords recently; they're all drawing on stuff that they've heard, and every melody you make with a guitar is pieced together from things which have directly influenced you.

"The only difference with a sampler is you're paying homage, as it were, to the literal source of the material as opposed to the intellectual source. To me, that makes it less of a plagiarist thing. If you're claiming something is your own, it's kind of more arrogant. I don't take credit for my source material, I simply take credit for what I do with it. A sampler is merely a tool, like any traditional instrument; it's just a more direct reference to your influences."

For Tobin, the reality is the sampler is much more than a tool, it's a fundamental hub which has allowed him to create music in a manner he feels is legitimate and comfortable, as he explains. "It's because of the sampler that I got into making music. I was really into blues when I was about 17 or 18, but although I could appreciate the music, I felt I couldn't really contribute to it because I wasn't part of that culture. The sampler allowed me to interpret something like blues in a way that was just as valid, but more appropriate as a representation of my idea of authentic music.

"To me, that process seems more representative, particularly with our generation now, which has such broad access to so many different cultural influences."

It's within a climate of cultural saturation that Amon Tobin's music is perhaps most at home, and soundtracking the hours of the more open-minded listener within this climate is his most likely agenda. "I want what I do to be an ambiguous form of music that different people can draw different things from," Tobin concludes.

"It's more interactive in that sense. That's the reason why I've always liked listening to soundtracks – you fit your own images to them, so in essence, their evocative impact is really only limited by your own imagination." And, as a listen to *Supermodified* will attest, Amon Tobin's got plenty of imagination.

CD info

tracks 13-16
Amon Tobin has created a bunch of loops and sounds just for *The Mix* readers, and he promises "they are all class". Get those samplers fired up…

Although he's at home behind the decks, A[illegible]n's first love is record production

Game On

words **Derek O'Sullivan** photos **James Cheadle**

Now that computer games have taken over as the leisure activity of the masses, the opportunities for soundtrack composers are great. We visited the *Tomb Raider* experts to find out how it's done

The idea of a new home leisure entity threatening the popularity of the established recreational pursuits of our age would have been barely conceivable little more than a decade ago. Indeed, the relatively primitive games consoles of the '80s were pretty much exclusively the domain of children, and anyone past their teens displaying more than the most fleeting interest in computer games was sensibly regarded with suspicion.

And yet at the sharp end of the 21st century, it's utterly acceptable for fully-formed humans to obsess about two-dimensional characters blowing the crap out of stuff on ludicrous quests across fantasy terrain. What, you might well ask, is going on? As the games industry comes of age, one of the consequences (and the one of interest to most of you lot) is the emergence of a sizeable new musical medium. We're currently accelerating towards integrated televisions and computers, and the console has evolved into a sophisticated device that's already being exploited as a sequencer, thanks to rudimentary but nonetheless groundbreaking programs like Music for the Playstation. Meanwhile, Sega's Dreamcast and the much-anticipated Playstation 2 offer yet more sophisticated audio capabilities and clearly point toward further developments.

> "It was brilliant to see 20,000 people jumping up and down to our music – even though most of them were eight years old" **Nathan**

The phenomenal impact of the action-adventure computer game *Tomb Raider* has done much to establish this flourishing enterprise as the most dynamic, not to mention lucrative, sector of the new entertainment business. In tandem with the staggering visual advances, the music that accompanies the gameplay has grown from a collection of sine wave bleeps to full-blown soundtracks.

Nathan McCree is the man responsible for scoring the first three hugely successful *Tomb Raider* games, and along with Matt Kemp, who worked with him on *Tomb Raider 3*, is behind writing, production and sound design company Meode Productions. Meode has taken the pair's talents into a considerably wider arena, with their work currently encompassing film, TV and commercial pop music as well as computer games. So where did it all begin?

While Matt's route into music as a profession followed the familiar tea boy/tape op/engineer route, Nathan took a slightly more circumspect path. "When I left college I wrote to about 200 different software houses, and Core Design were the only ones who offered me an interview," he recalls. "I got a job as a computer programmer, and my first project was a music sequencer for the Megadrive. I coded it all up and said to the boss, 'Shall I show you what it can do?' That was how my involvement in games music began. "At that time the music side of things was very much an afterthought – typically you'd be finishing a project in a week – but then around 1993-'94 the CD side of things took off and more resources became available.

"After a while, one of the project managers at Core asked me to do some John Williams, Star Wars-style music for a space shoot-em-up called *Sole Star*, and I remember thinking, 'How the hell am I going to pull this one off, especially with just a couple of basic keyboards'. I bodged it a bit – I had to use a few synth sounds for brass and that sort of thing – but in general the impression worked. After that it was just classical project after classical project, then when *Tomb Raider* came along, they wanted a full film score and it landed in my lap."

Despite certain similarities, writing the score for a computer game requires a significantly different approach to that of a conventional film soundtrack, as Nathan explains: "It's important not to end up with something that will potentially annoy people, particularly with the *Tomb Raider* games, where you can spend three or four hours playing the same section. If the music was repetitive, you'd go insane. My worst nightmare is for someone to say, 'Who wrote that fucking tune? Did you do that?!'

"So in the case of that project it was a case of writing lots of tunes and jigsawing them together, interleaving them with ambient sound effects, so that whenever there isn't a tune playing you get an atmosphere that you're not necessarily aware is repeating. It's very much a case of less is more, so that when the main music does happen the tension is immediately created.

"It's important not to end up with something that will potentially annoy people, particularly when you can spend three or four hours playing the same section" **Nathan**

"You really have to pay attention to the realism of what you're writing. On *Tomb Raider*, for example, there are some choral parts which were produced from sampled 'aaahhhs', but I added samples of myself breathing to punctuate the voices, and also worked a lot with velocities to get an overall effect that was as natural-sounding as possible. That kind of attention to detail is often what takes up the most time, but it's also what makes a piece of music stand out."

"Not everyone is into the intricacies of complex music," Matt adds. "The majority of people like something that they can remember. When I'm writing, I might start off with a simple tune and gradually texture it with other instruments. With programs like Cubase it's very easy to work around an eight-bar loop and build it up, which is ideal for the music we need to create."

Equipment-wise, the set-up that Nathan and Matt use is relatively standard, and the bulk of their work is done in a project-sized studio above Meode HQ. Again, there are certain prerequisites that differentiate the tools they use from a typical studio. "Obviously we're PC-based, because if we're working on games, we need that platform to test what we're doing. We also use a few different sets of speakers to monitor, which is again important when we're working on games music, given that people's set-ups can vary so much. We mix on a pair of NS10s, but we've also got a few different sets of PC monitors as well as some Realistic Minima 7s, to give us as broad an idea as possible of how the music will sound to most people."

"Most of the sounds we use for games music are synthesized. Certainly for the *Tomb Raider* stuff, the JV-1080, and particularly the orchestral board, produced the bulk of the sounds. We also try to create as many of our own sounds as possible using manipulation software and soft synths, but if we do we'll sample the sounds we want rather than overusing the

The two halves of Meode Productions: Nathan and Matt (right)

computer's processor. If you've got maybe ten or 20 audio tracks and 20 or so MIDI tracks, you don't really want to risk running another package. I don't think that Windows 95 and 98 are particularly stable when you're multitasking. Windows NT is probably more reliable, but ultimately you're using unnecessary resources on your computer, and it's more important to keep the timing critical. Also, when you're running a soft synth on your PC you're taking up a couple of analogue outputs that are probably better served outputting from VST."

Meode recently provided the music to accompany the opening sequence of The Spice Girls' live shows, and have a number of projects in the pipeline, including music for a couple of short films, a TV animation series and a sitcom, as well as what could be the big one, the Tomb Raider movie soundtrack. But how difficult is it to keep work coming in?

"Well, constantly mentioning *Tomb Raider* and Lara Croft has helped," Nathan grins. "A lot of it is word of mouth as well. The Spice Girls thing came about after their lighting designer heard the *Tomb Raider* music and played it to the girls. He'd been playing around with 'Carmina Burana' and stuff like that as an idea for something to accompany the laser shows at the beginning of their live gigs, but that idea had been overused, so we wrote the music from a script

Cash for questions

Ok, so you know about Meode Productions, and it's true that guv'nor Nathan cuts through the Oxfordshire countryside in a nifty [illegible] car with the company's name on the plates. In other words there are dollars to be made in this lark

So Nathan, how [illegible]?

"Well typically, a music programmer for a games company can earn £15-40K plus bonuses, although as a company director it might be anything from zero upwards."

Do you get royalties for *Tomb Raider*?

"Nobody in the computer games industry gets royalties unfortunately – which is why I live in a cottage and not a manor house. Because it's all fully-employed and contracted, they own the steam off your shit, basically.

After *Tomb Raider 2* I realised how much I could be earning if I was working for myself, so I left, and did a deal with [illegible] to do the music for *Tomb Raider 3* as a freelance project. The company still wanted to retain the copyright, so I thought, if that's the case they'll have to pay for it. I employed Matt to do all the sound design work and we got stuck in. We pulled it off, picked up the [illegible] and it was a case of, right, let's do what we want to do and get up our own company."

What's the most lucrative area of your work at the moment?

"If you can get into the film industry, that's obviously where the real money is. For the *Tomb Raider* movie, they've got the scriptwriters from [illegible] *Con Air* and *The General's Daughter*. I've heard that the budget for the film is $170 million, and another thing I've heard is that the music for a film typically gets about 1% of the overall budget!"

selected kit list

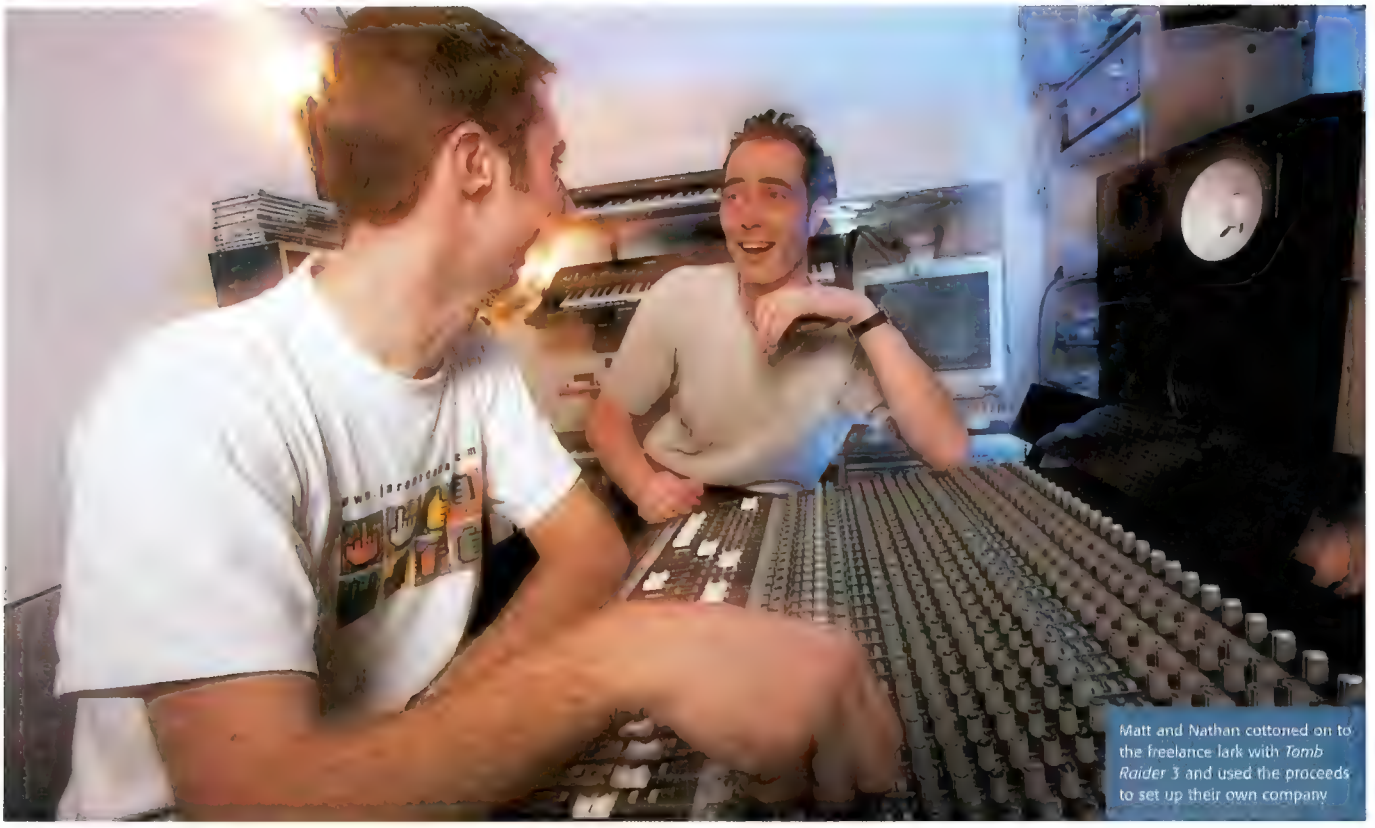
Console
Mackie 32:8:2

Recording
Dell Pentium III 550mHz PC
Event Gina soundcard
Cubase VST
Soundforge
ReCycle
Panasonic SV3800 DAT
Rode NT1 mic

Monitors
Yamaha NS10

Sounds
Akai S3000XL with effects boards x2
Roland JP-8000
Roland JV-1080
Ensoniq ESQ1 Plus
Roland D-20

Outboard
dbx Project 1
Focusrite Compounder
Alesis Midiverb III



Matt and Nathan cottoned on to the freelance lark with *Tomb Raider 3* and used the proceeds to set up their own company

that he gave us. We actually went to see one of the events and it was brilliant to see 20,000 people jumping up and down to our music – even though a large portion of the crowd was about eight years old!"

"With the *Tomb Raider* movie, I just rang around to get hold of the producer's number, got through to his assistant and told him who I was and that I was going to be in LA in the near future. Then I got a phone call from the producer asking when I was coming over, and we arranged to meet. I was expecting a long telephone interview, but it was as simple as that."

"If we hear about a project that we like, then rather than just sending off our showreel, we'll ring the company up first, tell them what we've done and what we're currently working on, then write something special as a demo. It impresses people because we've taken the time to write some thing specifically for the project, plus it gives us something else for our showreel and another finished track in the bag."

On the game

What do you need to get into computer games music at a professional level?

N: "First and foremost, you have to be versatile. A lot of it is about stylising; you're often emulating traditional or popular styles, so you have to be able to interpret and reproduce music with a known effect in a way that's evocative of a generic piece. I used to get sent a lot of showreels when I was working at Core, and when I left, I was given the job of interviewing for my replacement. What I'd ask the candidates was generally concerned with how they wrote music and how versatile their tastes and writing abilities were. From this I could get quite a good idea about how analytical and attentive their musical process was."

What specific difficulties arise in scoring music for computer games?

N: "One of the first potential problems is the fact that there generally isn't a lot of input from the games designers as to what kind of music they want, and at the same time there's not much to glean from the games themselves at the point when you have to write the music. The programmers might be eight months into development, but because they're working on things like 3D engines and so on, there's not an awful lot gameplay-wise to bounce off. You might have a few bits of paper which the artist has sketched character ideas on, and perhaps a rough concept of the game itself."

So how do you come up with ideas?

N: "With *Swagman*, the main character was this evil bloke made of liquorice candy, and it was all about children's nightmares, so I started listening to Danny Elfmann stuff – the *Beetlejuice* and *Edward Scissorhands* scores – to get an idea of that kind of fantasy soundtrack. After that I'd analyse the instruments he used and get those sounds up on my keyboard and mess around with a few riffs. As far as writing in general for computer games, it's important to create a mood rather than a song. You'll have the title tune which will be a track in itself, but the rest is generally quite subliminal. Then you have to think about the menu stuff and all the option music. That's typically going to be fairly subdued as well. You really need broad tastes; you can't be the kind of writer who thinks, 'This is the style of music that I make so I'll work it

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Logic Tips

Environmental issues

Master Logic's Environment and see the benefit in improved productivity...

words
Adam Fuest

In previous issues of *The Mix* we have seen several tutorials and explanations for the audio side of Logic Audio but in this article we are going to take a look at the Environment, and how it can make your life at the old Qwerty a little easier.

Setting up your Environment successfully can make all the difference when it comes to capturing those elusive ideas but, as with so much software, neglect to get to grips with it and it can positively destroy the creative process.

Logic is one of the most flexible MIDI/audio sequencers around but many people have found it difficult and confusing to navigate because of Environment phrases such as 'Cable' and 'Layer'. At first glance, these may seem irrelevant to your creative needs, but when mastered they can greatly improve your productivity and save you a lot of time and energy, solving problems easily.

In simple terms, Logic works on two levels, which interact with each other constantly. First we have the familiar Arrange window and its associated editors. Secondly there is the Environment.

The Environment is without doubt capable of performing the most intricate and complex forms of MIDI manipulation but can also, when set up correctly, provide an easy and intuitive, er... environment within which to make music.

First steps

The Environment is accessed from the Windows menu. Once the Environment window is open, an additional menu will appear named New. From this menu you select objects for your Environment and they appear in the environment window. This window is known as a 'layer' (more on this later). You then select the appropriate devices for the instruments in your MIDI set-up. Fig.01 shows a basic layout with no cables or FX in place.

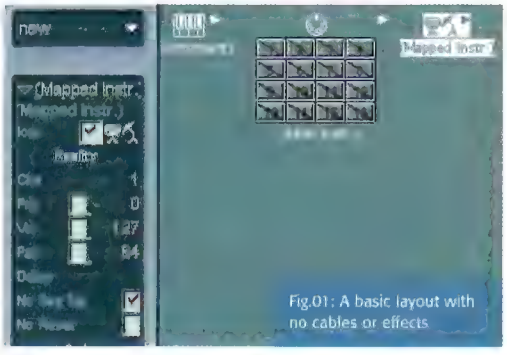


Fig.01: A basic layout with no cables or effects

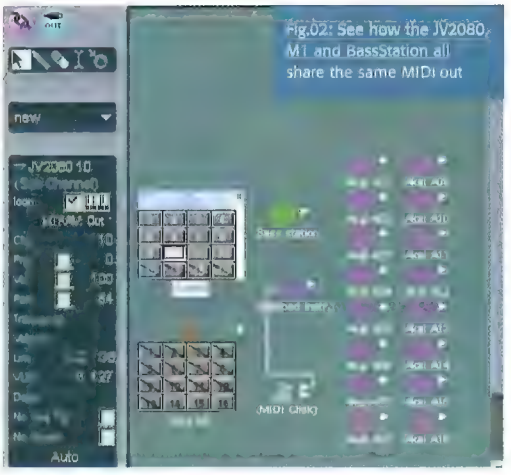


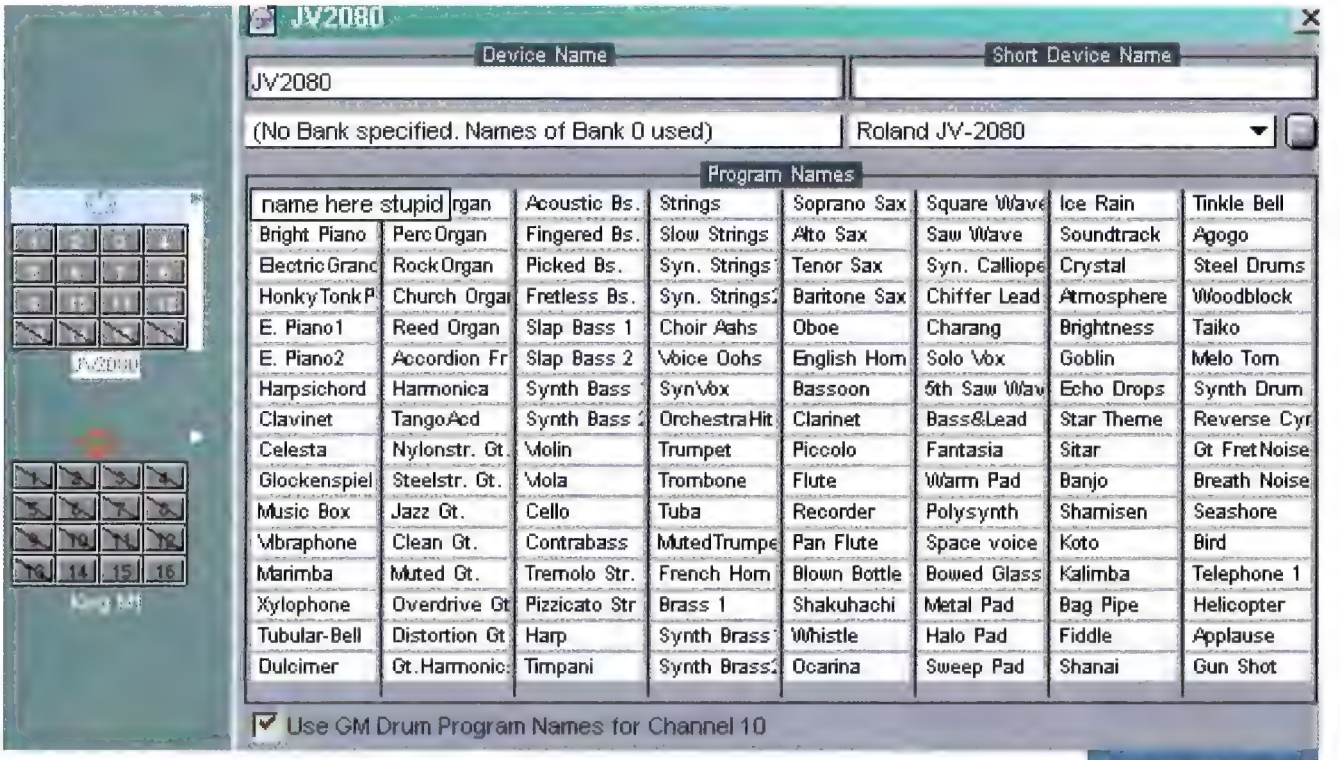
Fig.02: See how the JV2080, M1 and BassStation all share the same MIDI out

A 'multi-instrument', as shown in fig.01, is best selected for devices such as multi-timbral synths where they have patches and presets. Instruments are best used for devices such as samplers and instruments with external patch editors (such as an XG synth). Mapped Instruments are best suited to percussion devices – drum machines and the like.

Once the devices have been selected, they have to be assigned a MIDI port and their active channels within a multi instrument. This is done by simply clicking on the active channels you require for that instrument; for example, you may have a JV2080, a Korg M1, an Akai S1100 and a BassStation, but have only two MIDI ports available. You may use the sampler a lot so wish to have all 16 channels available for that, which means that the JV2080, the Korg and the BassStation are going to have to share the other port (see fig.02).

We have given the Korg M1 channels 14 to 16, the BassStation channel 13 and the rest go to the JV2080, but as you can see from fig.03 we have a 'Mapped Instrument' for drums. This has been assigned to channel 10. At this point, if you return to the Arrange window and click and hold an instrument name, you will see that you have only the instruments and

Fig.03: A correctly organised environment will help you keep your Arrange window in order



channels you have selected. The Environment's basic configuration is now established. Cables and input and output ports are assigned automatically.

You can individually arm each MIDI channel for program change, channel volume (not velocity), and pan, plus your key range limit and velocity limits all from the track info box.

The Mapped Instrument, if double-clicked, will reveal the mapping for this instrument (and will allow you to change output notes and velocities per mapped instrument) in a way a little like the drum editor in Cubase, although sadly, the quantise and note length functions are not available in Logic. If you want to have a MIDI metronome, simply create a 'MIDI click' in the Environment and then create a cable from the MIDI click device to the Mapped Instrument (see fig.05).

As you can see from the Object Parameter box, the MIDI clicks can be in crochets, quavers, or

Fig.05: Put in a MIDI click to sort out those timing nightmares

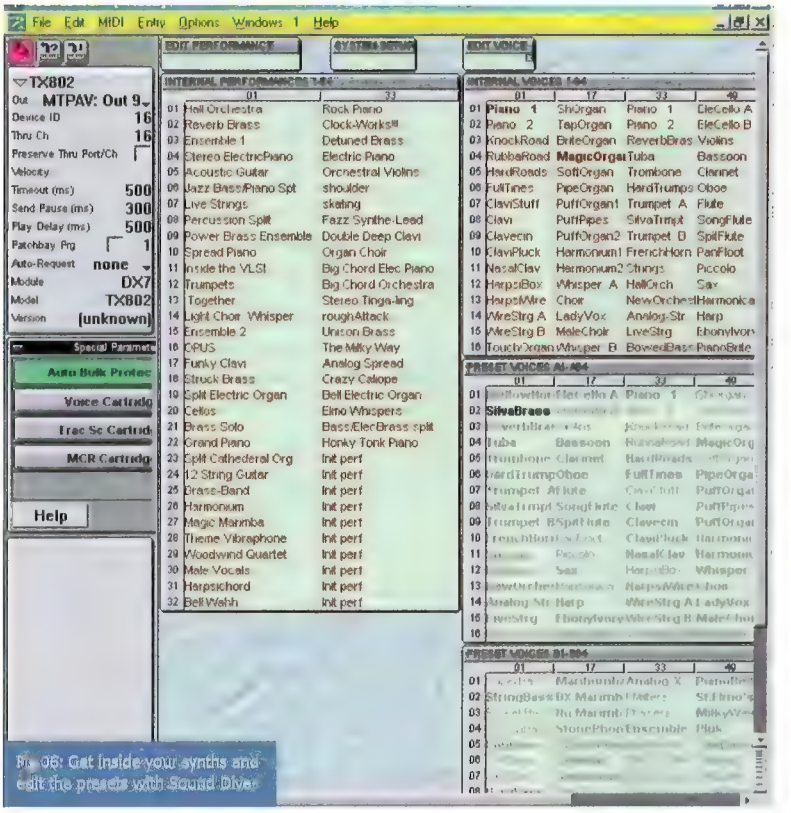


Fig. 06: Get inside your synths and edit the presets with Sound Diver

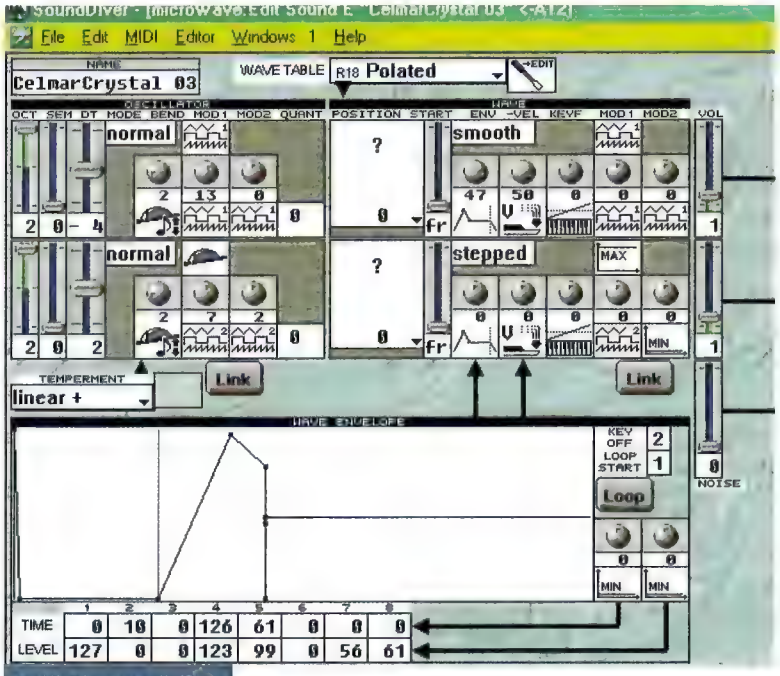


Fig.09: Diving into a Microwave – edit those patches on-screen

semiquavers, with different velocity and accents, and can be assigned to any voices that you wish to use. At this point it is worth taking a quick look at a function called Auto Link. Auto Link is a feature that allows you to link Logic directly with an Emagic program called Sound Diver.

Dive in...

Sound Diver is a synth editor and librarian that will work alone or in conjunction with Logic Audio once Auto Link is enabled. At this point Logic's Screen Set can be synchronised with Sound Diver. Its appearance is not dissimilar to Logic, with the Object Parameter Box to the left of the screen, with the inserts into Sound Diver, the appropriate instruments and the relevant information (MIDI ports and so on). Now Sound Diver is able to extract all the patch program performance information from the synthesizers connected and, via Auto Link in Logic, it can update all the patch names in your multi-instruments (fig.06).

If that's not enough, double-clicking a patch name in Sound Diver will activate a patch editor (see fig.09). After editing it will automatically play two bars in Logic so you can audition your edits in context.

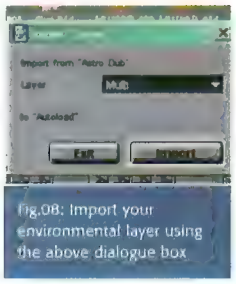


Fig.08: Import your environmental layer using the above dialogue box

Additional tools

When installing your main instruments you may have noticed that there were many other tools and devices available from within the menu. Some of the key tools include arpeggiator, transformer, delay line, voice limiter, channel splitter and chord memoriser. To use any of these devices is remarkably simple once the Environment has been defined.

For example, if you want to use an arpeggiator, simply create an arpeggiator and connect it with a cable to the output of the instrument you wish to use in the Environment. Then create an output port and assign the output of the arpeggiator to that output port, and there you have it: an arpeggiator isolated for that one output. If you wished to have that arpeggiator switchable (in and out), you also need to create a Switch; this is done by – you guessed it – creating a Switch from the Environment menu. If you like the idea of having several different arpeggiators available to switch between, you can simply attach more arpeggiators to the Switch. Fig.10 shows four arpeggiators on a Switch.

Fig.07: See all your MIDI equipment graphically on screen with Sound Diver

As we say, this is a simple device and you can create amazing tools with use of the channel splitter and the transformer used in conjunction with several arpeggiators. Of course, Fig.10 shows the use of tools as monitor devices, but if you wanted to have these tools available as input devices and record the results, you could simply insert a Physical Input and Sequencer Input into the Environment with a second Switch, and there you would have a switchable device between input and output.

Multiple layers

So far, the Environment we've structured is all in a single layer. layers are there for ease of understanding but essentially all work together – have a look at the All Objects layer to see how confusing it gets.

To access the other Environment layers go to the small box above the Object Parameter Box. You'll find the Audio layer and the All Objects layer, plus Create. If you are creating large and complex processors in your Environment then it might well be a good idea to give them a layer all of their own. To do this, highlight the desired objects, hit Ctrl+X, then go to your new layer and hit Ctrl+V and you will have moved all the objects to this layer. Once happy with your basic configuration it can be saved to your Logic Audio directory as Autoload and from that point on, every time Logic is loaded it will default to this song, complete with all the environmental properties.

Importing layers

You may have noticed that within the 'New' menu for the Environment there are also many additional tools. These are things like faders, switches, and knobs, all of

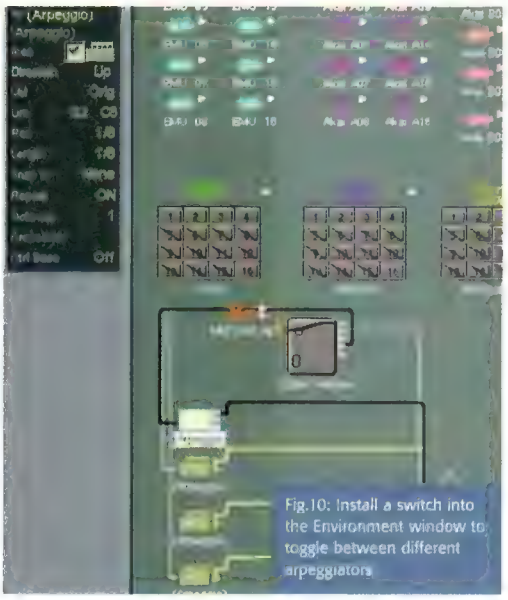


Fig.10: Install a switch into the Environment window to toggle between different arpeggiators

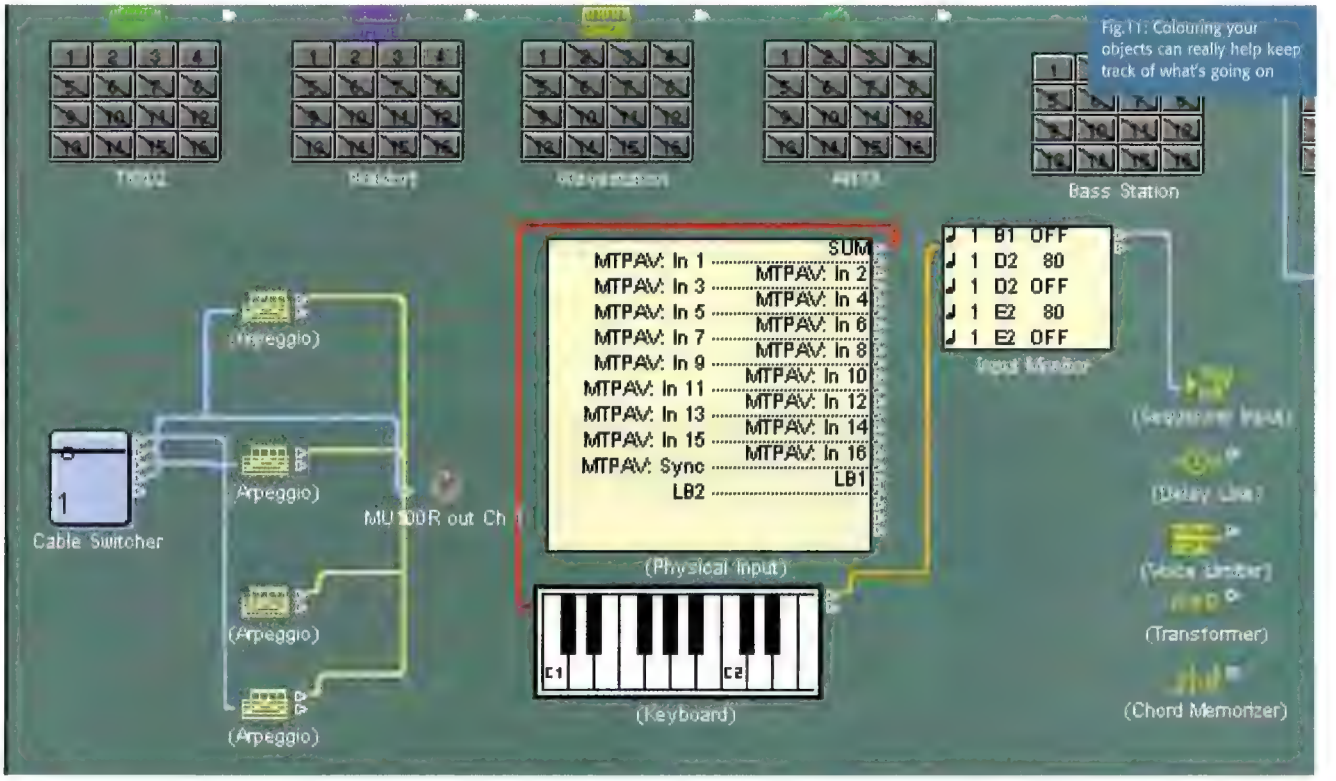


Fig.11: Colouring your objects can really help keep track of what's going on

which can be used to design editors, processors and mixers that can run and be automated from within Logic Audio.

There are many adaptations designed by enthusiasts, including editors for most synthesizers. Often they are enclosed on the disks provided with a synth but how do you get those templates into your Logic Environment? Importing layers is a very easy task to perform. Firstly, select a destination for the imported layer in the Environment, then go to the Options menu and select Import Environment (see fig.08). Then select layer, and you will be given a browser where you can go to the Demo file (or whatever the song is called) and import the relevant layer, at which point it will appear in your environment.

Once you have a feel for what you need within your Environment, you can insert objects such as Physical Input and Sequencer Input. Caution should be exercised here and it is advisable to have your connection default set to go from Physical Input Sum to Sequencer Input, as once a Sequencer Input is inserted it is essential that it is connected at all times.

Colouring coded

Using the Object Colour option from the View menu you are able to colour each object individually. In doing this Logic will automatically colour the corresponding output cable from that object, enabling easy tracing of processing within a song (fig.11). Here's a useful tip: if an object is on one layer and you want to connect it to an object on another layer, hold down Control and click on the connection cable of the object, and all the available connection options will appear in a manner similar to when choosing an instrument in the Arrange window.

And finally...

Apart from the objects we've covered so far, there are a few things worth mentioning, such as the ready-built mixer (GM mixer). Any number of mixers can be inserted on as many layers as you wish, with the option to set them for XG, GM or GS. They may not be not to everyone's taste, but if you're running an XG synth they are very handy indeed.

The convenience of a well-sorted Environment is felt in windows like the Track Mixer, where all the tracks accessed in an arrangement are displayed with their fader values (fig.12). This includes both MIDI and audio, and having your icons and colours well- defined makes this a very intuitive part of Logic to use. This is not to say that it answers all the problems, for in many ways certain dedicated editors, such as XG Edit, really get to the nitty-gritty fast. But they do require the use of a multi-client MIDI device like Hubi's LoopBack Device and we know some people still using Windows 95 (come on, get it together you guys!) are not fond of using these kind of devices.

We hope this article has managed to clear up some of the mysteries that surround the Logic Audio Environment. It is a unique and imaginative set of tools designed to deal with the multitude of devices we are now presented with, and used in conjunction with Sound Diver, is well worth the effort.

Fig.12: The Track Mixer can really work for you if you've got your act together

Pedal Power

Why should guitarists have all the fun? Take low-tech FX pedals into the studio and you can create mad sounds without having to spend a fortune

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words
Trevor Curwen
images
Gavin Roberts

If you've ever used one of the sophisticated digital effects processors from the likes of Lexicon and Eventide, you may be surprised that some of these wallet-emptying state-of-the-art units contain specific digital simulations of some of the low-tech effects pedals that guitarists have been using for years. The Eventide DSP 4000, for example, even simulates a particular fuzzbox with a failing battery.

Many of the sounds produced by these old pedals are still much in demand, so much so that the high-tech manufacturers feel the need to incorporate them in their processors. But why go for a digital simulation when you can have the real thing? Many engineers and producers are using stompboxes in the studio to add a bit of character to the sounds in their recordings.

Apart from the fact that pedals are easily carried from session to session, you can enjoy the tactile experience of twiddling the knobs in real-time, but the magic of pedals mainly lies in the sounds created by that old analogue circuitry. There is something about the sound of certain stompboxes that can't quite be reproduced in its warts'n'all entirety by digital units, and while some simulations are not at all bad, there are some down-and-dirty sounds that can only be truly attained from the original pedals themselves.

Effects pedals can of course be used both when recording and mixing, but as they are designed to sit in line between a guitar and its amplifier, their output level is typically low. Consequently, pedals can be plugged directly into a mixing desk's line input, but the input gain will usually have to be cranked up high to get a decent level. Plugging the pedal into a DI box is a better option; alternatively, you can plug it into the instrument input of a 'channel strip' type of outboard

unit. Pedals will generally work quite happily when plugged across a desk's insert points, although a drop in signal level may be experienced.

So which are the favoured vintage effects pedals and what will each one do for your sound? This is probably best illustrated by looking at the various categories of effects available, and pointing out a couple of favourites in each category...

Distortion

Although there is a certain amount of crossover between the two, distortion pedals can be roughly put into two categories: overdrive pedals and fuzzboxes. Overdrive pedals aim to simulate some of the sound of a valve amp in full flow, and fuzzboxes produce a fuzzy (some might even say cheesy) distortion, created in early units (and certain newer ones) by the use of Germanium transistors.

There are probably more different distortion pedals than any other type of effect. The Fuzz Face, as used by Hendrix, was one of the earliest of these, and the Electro-Harmonix Big Muff π is one of the best-known. More recent well-respected examples are the Ibanez Tube Screamer and the ProCo Rat. The amount of character variation between the different models is immense. No two fuzzboxes sound exactly alike and even in one pedal the different tones obtainable can be extremely wide-ranging – the Big Muff π, for example, can run from a real rounded liquid sustain to a cheap and nasty trebly fuzz.

Typical controls might comprise a knob to control the distortion amount, some kind of tone control, and a knob to adjust output volume. Using one is pretty damn simple: you just plug it in and dial up the amount of distortion you want. The effect varies with the type of sound inputted and can be used to add a bit of edge to anaemic synth sounds or completely distort drumloops (or whatever). A more subtle approach is to split the signal and just add a small amount of the distorted sound to the original.

Phasers

Another pedal-great was the phaser. It was *the* effects sound of the mid-'70s. Phasing works by creating 'notches' in the frequency range where sounds at those frequencies are eliminated, and sweeping the notches up and down giving a characteristic swirling sound (and on some settings, a warbly sound reminiscent of a rotary speaker).

MXR pedals: in their day, the Elizabeth Taylors of the effects world

Sounds of the '70s: the once-passé stompbox has made a comeback

MXR were the classiest and most expensive effects pedals around at the time, solidly built in compact heavy cast-metal casings with rounded edges and seemingly a world apart from Electro-Harmonix' angular sheet metal monsters. MXR produced three phase pedals, each in a different shade of orange: the less expensive Phase 45 and the ever-popular Phase 90 and Phase 100. The Phase 100 has a four-way intensity switch and a knob to control the phase rate or speed, as opposed to the single phase speed knob on the Phase 90, but the default intensity setting for the Phase 90 is well-chosen. These pedals can add a nice sheen that gives sounds a little movement over time when the speed is set to slow, or, with a fast rate dialled in, a swimmy-underwater sort of sound.

For a more intense experience, there's the Electro-Harmonix Small Stone, reputedly the best-selling phaser ever. A single knob controls the rate of the phase and a two-way colour switch provides a variation of the effect. With the colour switch in its top position, the »

A mutated history of stompboxes

Electric Mistress, Big Muff π, Mutron III, Bass Balls, Crybaby, Rat, Tone Bender, Univibe, Memory Man – the very names of some stompboxes are enough to bring tears to your eyes and inspire you to start messing around with some cool sounds. But how and when did these various pedals originate?

Guitarists' stompboxes first made an appearance in the mid-'60s with the introduction of the first fuzzboxes and wah wahs. Other types of effects followed hand over fist, and the sheer number of different types of effects on offer reached its peak in the late '70s when New York City's weird and wonderful Electro-Harmonix company was in its prime. (Unfortunately, Electro-Harmonix went tits-up in the early '80s and all the remaining pedal stocks were sold.)

Things didn't *quite* grind to a halt with the demise of Electro-Harmonix (Roland's Boss pedals, for example, have been consistent sellers over the last 20 years), but inevitably, the introduction of affordable rack-mounted digital effects during the '80s helped to consign many pedals to the attic or the car boot sale.

Zoom forward a few years, however, and something started happening. The gnarly sounds of the older generation of pedals were rediscovered and items that once couldn't have been given away were now regarded as vintage classics with rising price tags to match. As demand for the old stuff rose, the industry eventually took notice and geared itself up to fill the gap. Consequently, many of the original names (including Electro-Harmonix) have been revitalised and are re-issuing a selection of the old classics. In addition to this, there are now plenty of new specialist manufacturers such as Lovetone and the US's Z.Vex and Fulltone producing some excellent stuff that takes the humble stompbox into new realms.

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The Electric Mistress: not a dodgy film, rather, the most revered of all flangers

sound of a Small Stone is a creamy, deep swirling phase; in the bottom position it becomes more thinned-out and less deep.

Flangers

Flanging is a particular type of phasing that utilises equally-spaced notches in the audio spectrum. In flanging, a signal is mixed with a delayed copy of itself, with the amount of that delay constantly changing in a range from around one to ten milliseconds.

The Electro-Harmonix Electric Mistress is probably the most revered of all flangers. The unit is powered by two PP3 9V batteries and has three knobs controlling rate, range and colour, with a small toggle switch that switches between flanger and filter matrix modes. Most flangers can produce that characteristic whooshing sound often described as the sound of a jet taking off, but the Electric Mistress does a lot more...

In flanger mode the Mistress, with three knobs to adjust, produces sounds with a wide range of variation, from a pleasantly-enhanced tonality and a polite warble to over-the-top detuned hooligan effects. In filter matrix mode, only the range and colour knobs can adjust the sound, but what a sound! This unique metallic whine is the effect of a comb filter at work. If you want a bit of weirdness, you'll find it here.

A mains-powered Deluxe Electric Mistress was also produced and this forms the basis of the re-issued model, although the sound is slightly different from that of the battery-powered jobbie.

Envelope followers

Widely used in mid-'70s funk, probably the best-known is the Mutron 111 envelope follower and voltage controlled filter, a product endorsed by Stevie Wonder and used with the Hohner Clavinet on 'Higher Ground'. Basically, these things create an automatic wah effect and squelchy filter sounds that are determined by the input signal strength. Electro-Harmonix had several models including the Doctor Q, Bass Balls and the Zipper, and now have the all-new Q Tron, developed from the Mutron 111 in conjunction with its original designer. One of these will do wonders for tarting up percussive bass sounds from bog-standard synths and will give them a bit of that Bootsy thang. Typical controls set the range of the effect, filter peak and bandwidth, and determine whether the wah sweeps up or down.

The effects covered above are only scratching the surface of what's available. There are several other FX categories including chorus, tremolo and vibrato that can be explored, leading to an almost unlimited palette of sounds.

The logical progression from using single pedals is to use them in combination for more complex sounds. Experimenting with the order in which they are connected can yield some interesting results. Combining a fuzzbox with any of the other categories is a good starting point, and gives the option of either 'phasing the fuzz' or 'fuzzing the phase'.

How much?!

Certain vintage pedals fetch premium prices nowadays. A Mutron 111, for example, will cost in excess of £300 if you can find one. Most of the other pedals mentioned, however, have been re-issued and can vary in price considerably from dealer to dealer, so shop around. Checking out the ads in our sister mags *Guitarist* and *Total Guitar* would be useful start.

RRPs:
E-H Big Muff π £75
E-H Small Stone £75
E-H Electric Mistress £149
E-H Bass Balls £99
E-H Q-Tron £189
[illegible]
MXR Phase 90 £99
MXR Phase 100 £149
Sansamp [illegible]
ProCo RAT £79
Fuzz Face £95
Lovetone Ring Stinger £279

Lovetone pedals are built in small batches, so not all are available at any one time and the prices may change. Contact Lovetone for more info (see p. 88).

The Sansamp

The Sansamp is not strictly an effects pedal, although thanks to its size and its central footswitch it does look like one. However, it is definitely worth a mention here as it is another item that has found its way into the engineer/producer's bag of toys as a general means of adding distortion to any sound you care to put through it.

The Sansamp was actually designed as a valve amp simulator, a portable palm-sized box that would plug directly into a mixing desk and produce the types of sounds obtained from guitarists' amps without the twin inconveniences of loud volumes and microphones. This is a job it performs admirably, but it is also great for distorting voices and crunching up drum loops.

A three-way switch lets you choose from different sound characters that simulate those obtained from Marshall, Mesa Boogie or Fender amps, while the eight tiny dip switches simulate such characteristics as different EQ curves and close miking. These, combined with the four rotary knobs, allow you to dial up a wide range of distortion.

A unit that does a similar job to the Sansamp is the arse-shaped piece of moulded plastic known as the Line6 Pod (reviewed in *The Mix* issue 63), which uses digital modelling of vintage amps to create its distorted sounds. Look out for a new rack-mounted version with digital connections.

A stompbox imposter: the [illegible] designed a [illegible]

Lovetone Ring Stinger

Lovetone's latest offering is capable of many mad sound mutations – you can even use it Theremin-style

Old pedals do have their drawbacks. Apart from being hard to find and expensive to buy, they can be excessively noisy and difficult to maintain. After years of use (and abuse) things do break or wear out – it's a very well looked-after vintage Electro-Harmonix pedal that hasn't got a few rust spots. Some of the original components of these pedals are no longer made, so a broken pedal may often stay broken.

Fortunately, in these enlightened times, we no longer have to rely on battered old boxes to get our sounds. Thanks to the select group of specialist manufacturers that has sprung up, we can buy pedals that do all the things the old ones do (and more) but with less unwanted noise and few reliability problems.

Lovetone, based in Henley-on-Thames, make pedals that appeal across the board. They're not cheap but they're damn cool. You only have to look at their user list to get the picture – it's a virtual *Who's Who* of contemporary record production.

The array of Lovetone pedals covers many bases and will be expanded later this year with an as-yet-unnamed pedal that will do flanging among other things. Lovetone pedals to date include Big Cheese, which does the fuzzbox thing and more, and Brown Source, an overdrive unit, while the Cheese Source combines both in one box. The Wobulator is as complex a tremolo unit as you'll find, while the Doppelganger covers vibrato and phase effects and the Meatball is a massively funky envelope follower.

Just how sophisticated stompboxes can be is amply illustrated by the latest device cooked up by Lovetone. The shockingly pink Ring Stinger is fundamentally a ring modulator with octave distortion but uses concepts that have more in common with modular synths than standard effects pedals. Ring modulation is one of the more off-the-wall effects and is known for creating metallic chiming noises, although the Ring Stinger is capable of a lot more than just that.

Ring modulation uses the sum and difference of two input signals to create a completely new sound. The instrument signal that you feed into the unit is modulated by the second signal, the 'carrier' tone (provided by the Ring Stinger's VCO), which can itself be tweaked to provide variations on the effect.

In the Ring Stinger's case the carrier signal can be tweaked by the built-in LFO, an external footpedal, external control voltage or a light sensor built into a jack plug that allows the unit to be used Theremin-style. In addition to this, there is an insert point that allows the carrier to be overridden by a second external signal, or be treated with low-pass filtering, gating or whatever.

In use, the Ring Stinger is a complex beast that is capable of all kinds of mad sound mutations once you have taken time to read through the lengthy instructions and got the hang of the controls. Octave fuzz sounds are probably the most conventional sounds onboard and are easily obtainable, but the potential for weirdness is immense, with all manner of ring modulation-induced metallic bell tones, shrieks and whistles, as well as tremolos and SF effects. If you want to seriously mess up some sounds and create something new from them, this box will do it for you.

More from: Lovetone, PO Box 102, Henley-on-Thames, RGG 1XX Tel: 01491 571411 Web: www.lovetone.com

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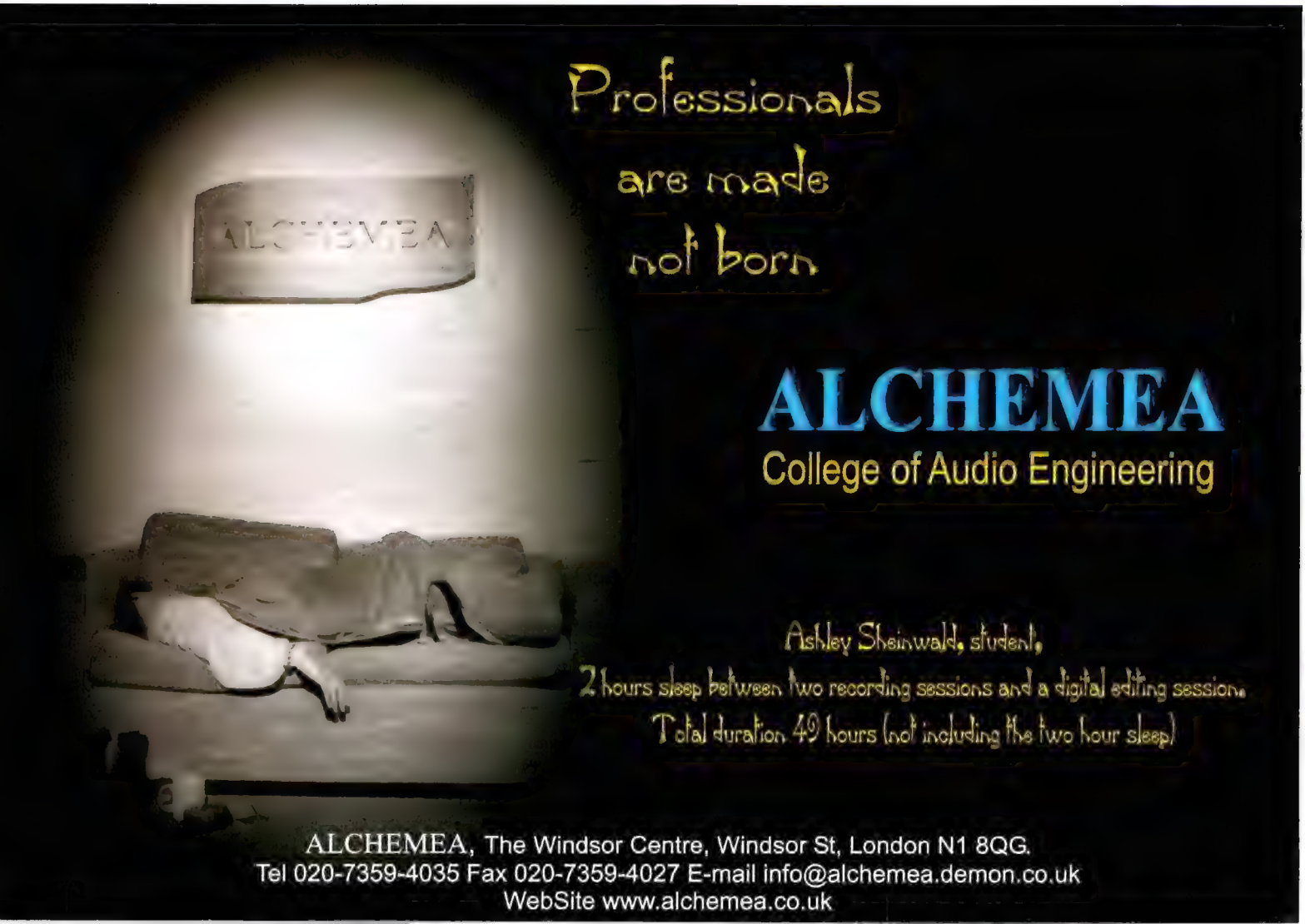


help file

Problems in the studio? Ghosts in your machines? Contact the *Help File*, where our team of audio experts try to to solve your technical torments

glossary

Controller
Name for a particular MIDI message type used for adjusting parameters such as volume, pitchbend and so on. A number of controller numbers are reserved for specified parameters, according to the official MIDI specification, but the rest can be used for product or application-specific control.

Control surface
The whole or part of a unit that hosts controllers such as faders and knobs. No audio passes through it, as opposed to many analogue designs, where the controls are audio components

DAT
Digital Audio Tape. A stereo, digital tape format originally developed as a consumer format, but taken up as a mastering format by the audio industry. Uses a special rotating head assembly

Daughterboard
Modern soundcards include a standard connection for another small piggyback card, called a daughterboard – basically a MIDI connection with power supply

Duplex
The ability of a soundcard to play and record audio at the same time. 'Full duplex' means there is no loss. Some soundcards operate with reduced sample rate on the output in duplex mode

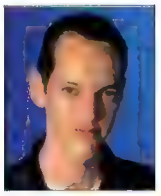
Effects
Any software or hardware device that alters the nature of a signal, such as a reverb unit, pitch-shifter or vocoder

the masterminds

this month's *Help File* team

NAME: Trevor Curwen
OCCUPATION: producer/engineer
CHOSEN SUBJECTS: vintage gear, microphones, cabbage soup

NAME: Adam Crute
OCCUPATION: technical writer
CHOSEN SUBJECTS: PCs, music software and hardware, internet, jam tarts



NAME: Oz Owen
OCCUPATION: *TM* reviews editor
CHOSEN SUBJECTS: Logic Audio, MIDI, processors, consoles, German sausages

MIDI heaven

Q When I select sounds for each track on my sound module the sounds all change back to piano on every track. I use a Korg 05R/W module, a PC running Cubasis VST and work on MIDI files taken from the net. Please somebody get me out of this MIDI hell...

Brian Hyland, by email

A Sounds like you are well and truly in MIDI hell... but fortunately a solution is close at hand. If you're setting up the 05R/W in multi-mode, then try to get into the habit of doing it from Cubasis. When you set up the Korg from its front panel, only the Korg knows what's going on. Sure, Cubasis will send out MIDI information on channels 1 to 16 and the Korg will respond appropriately, but setting MIDI instruments up from Cubasis will ensure the instruments you select will be saved with each individual song, meaning different tunes/set-ups can be recalled with ease.

So what you need to do is click on the little tab on the bottom left-hand side of Cubasis' Arrange window and a box will appear to the left of the channels giving relevant track information. Highlight track 1 on the Arrange window, then use the Program and Bank boxes to change the instrument that the Korg has on channel 1 – the changes you make on Cubasis should be made automatically on the Korg at the same time.

Now do this for MIDI channel 2, 3, 4 and so on until all the correct sounds for the tune are in place – in effect, the PC is telling the Korg what to play. Then when you save the arrangement, the settings you've made on Cubasis will (naturally) be saved with it, and on loading up again the software will instruct the Korg as to what instruments will be needed for each MIDI channel. Er... how's that?

Oz Owen

MIDI controllers

Q I have often read articles and equipment reviews that speak about not only adjusting patch changes, but also adjusting the parameters of effects using MIDI. I know a little about it, but not enough. I think many people (including myself) own effects processors that are MIDI-compatible in this way, but don't quite understand how to take full advantage of it. It would be great if you could give me more info on this, or even dedicate an article to this subject.

Damion, South Africa

A Good question, Damion. The parameters in effects units are usually controlled by MIDI controller information. In MIDI parlance, a controller is any switch, knob, slider or anything else that implements some function other than sounding or stopping notes. So basically, you can supply your FX unit with controller information from the sliders and dials on your keyboard, from a MIDI pedal board or slider-equipped dedicated MIDI controller, or directly from your sequencer. It is possible to set up virtual faders in some sequencers to send this

Why just have plain old FX when you can use MIDI to add dynamics to them?

information. The implication of all this is that throughout a song you can automate changes in effects using controller information transmitted from your sequencer to the FX unit.

There are 128 possible MIDI controllers numbered from 0 to 127, some of which are associated with a particular hardware controller or function (for example, controller 1 is assigned to the modulation wheel, controller 7 is MIDI volume), and some of which can be arbitrarily assigned. A MIDI controller message contains the number of the particular controller followed by the value that controller is set to, which will be between 0 and 127 for coarse adjustments.

Now, some controllers are continuous controllers in that they can continuously alter a value throughout the range, while some controllers can act as a switch (generally with values between 0 and 63 as off, and values of 64 and above as on). Practical examples would be where a continuous controller was used to alter reverb time, or a controller could be used as a switch to change a rotary speaker simulation from slow to fast when the value changed from 63 to 64.

As for which controller affects which parameter in your FX unit, it varies from unit to unit, so check your manual. Unfortunately, some manufacturers are a bit lax when it comes to including this sort of information in their manuals. Some have fixed assignments while some allow you to assign specific controller numbers to specific functions. Some FX boxes can actually transmit MIDI controller information from their front panel controls, so as you tweak a parameter in real- time, the MIDI data can be recorded by a sequencer.

Trevor Curwen

An i for an i

Q I'm looking to start editing music on my iBook and I have the ability to record live on a DAT recorder. I have two questions: 1. Is this possible, or is my USB connection not worthy of even trying? 2. What software and hardware do I need to purchase?

Ideally I would like to start with something less expensive than Cubase and work up to that if things go well. What are your suggestions?

Ncoom, by e-mail

A Due to its relatively low communication speed of 12 megabits per second (max), USB, in its current incarnation, isn't a viable option to pass audio to and from your computer. True, devices like the Roland/Edirol UA-30 claim marvellous things such as being able to route incoming audio, CD audio and more into your computer, but on investigation it appears that such devices have some fairly major compatibility issues attached to them, with some users finding they won't work at all with their systems.

Also, if you were to use a USB audio interface, you would have to dedicate your whole USB buss to the job as any other peripherals attached to it would sap performance from the audio device.

A more suitable standard for audio communication is the new IEEE1394 FireWire communication bus. Like USB, FireWire allows 'hot connecting' (connecting peripherals while the computer is on) and true plug-and-play functionality, but also has vastly higher communication speeds (400 megabits per second). However, this is still a relatively new technology and until computers start shipping with a FireWire interface as standard, don't expect to see a glut of FireWire devices hitting the market.

Your best bet on the hardware front is to stick to established technology – i.e. internally mounted expansion cards. The Digigram VX Pocket PCM audio card, for example (see the review in issue 70) will

Don't bother trying to use USB to get audio in and out of your computer.

glossary

FireWire
The trademark name for the IEEE1394 external bus standard, developed by Apple and now standard on new Macs. One FireWire port can connect up to 63 devices and the transfer rates can be as high as 400Mbps.

GM
General MIDI. Protocol introduced in 1991 to ensure a synth's compatibility with MIDI files, which also acts as a kind of language so instruments can 'speak' to each other. GM specifies a list of 128 instruments, complete with a short list of controllers.

GM module
A multitimbral sound module that conforms to the General MIDI standard. GM sets out a standard list of tones, program numbers, and controller numbers, which means that any GM-compatible MIDI file will play on any GM-compatible module.

Handshake
Two-way communication between devices. Allows two devices to react to one another's status.

Interface
Anything that aids interconnection. It could be a screen to a computer user, or the MIDI protocol to MIDI equipment.

MTC
MIDI Time Code. A representation of SMPTE timecode within the MIDI data protocols.

NRPN
Non Registered Parameter Number. Extended MIDI controller numbers that are not strictly part of the host MIDI protocol (such as GM, XG and GS).

PCM cards
PCM stands for Pulse Code Modulation, the common digital audio data format. PCM-based synths use pre-sampled sounds to form the basis of sounds, so PCM soundcards store PCM sounds.

provide you with 24-bit converters, two balanced analogue inputs, two balanced analogue outputs and S/PDIF digital I/O too. This is just the job for what you want to do as you can hook your DAT player up to your iBook digitally to get your recordings into the computer.

Then there's the question of software. For audio editing the unchallenged king of the hill has to be Digidesign's Pro Tools, versions of which will run using the VX Pocket. Of course, Pro Tools can be quite pricey, but new versions such as Pro Tools LE are very reasonably-priced indeed. For audio editing Cubase isn't necessarily the one to go for, as its audio editing functions aren't the easiest to use, although you do have the advantage of plug-in effects and processors.

Logic Audio is another package that you may have thought of and is available at various price points so you could get a lower-end package and upgrade at a later date without having to get to grips with a new piece of software. However, as with Cubase, Logic's audio editing functions can be more of a handful than they need to be. For straightforward editing of stereo files (which is what it sounds like you are trying to do) a wave editor is most likely your best bet. There are lots of these available, and which one to go for is largely a matter of which fits your style of working best. For Mac use, my personal favourite is Digidesign's Sound Designer II, but try it out for yourself before parting with your cash. (You can contact Digidesign on 01753 653322 or check the web: www.digidesign.com).

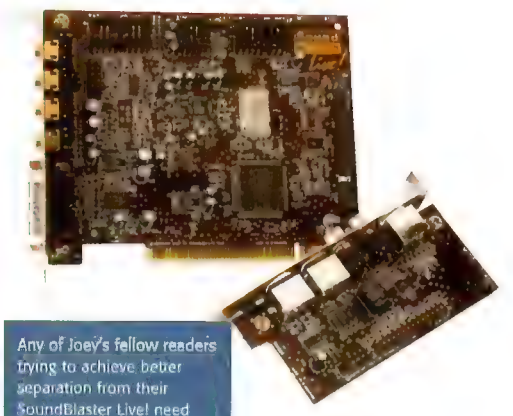
Adam Crute

Reader's tip

I have just discovered a way to achieve better separation when sequencing audio files and soundfonts using the SoundBlaster Live! If you set up the mixer section to four speakers and send the MIDI (soundfonts) to the rear and the wave/directsound (audio) to the front, you can physically route these two useful ports as separate stereo channels.

This has solved my muddied single stereo output problem. I hope this benefits other readers of *The Mix* as much as it has me!

Joey Schmidt, by email



Any of Joey's fellow readers trying to achieve better separation from their SoundBlaster Live! need fret no more

glossary

Plug-in
A miniature program or utility that works within or alongside another program. For instance, the latest VST instruments are plug-in soft synths and drum machines that can be used in tandem with Cubase VST.

Sequencer
Recording, editing, and playback software. Most sequencers now include audio recording and editing as well as the usual MIDI functions.

SoundBlaster
Creative Labs' Sound Blaster cards have become a mainstay in the PC gaming community. Now, through the hugely popular (and affordable) Live! range, they're finally reaching the common-or-garden PC musician too.

S/PDIF
Sony/Philips Digital Interface. Standard digital audio connection with a status bit for copy protection. Usually on a phono (RCA) connector.

SysEx
Short for System Exclusive MIDI messages reserved for machine-specific information. Has a standard start message, but the rest is up to the manufacturer.

USB
Universal Serial Bus. Now becoming the norm on both PCs and Macs, although there's still some way to go before the number of available peripherals catches up with other standards. USB is a fast, high-capacity, (up to 127 devices) serial connection protocol.

Voices
Usually refers to a synthesizer's polyphony or multitimbrality. That is, the number of instruments that can be played at the same time.

XG
Yamaha's MIDI protocol (see GM). Compatible with GM and Roland's GS.

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Above (left to right): HHB Circle 5 midfield monitor (active and passive versions available), HHB Circle 1 powered sub-woofer, HHB Circle 3 nearfield monitor (active and passive versions available).

Left: Mick Fleetwood with HHB Circle 5 active midfield monitors and Circle 1 powered sub-woofer.

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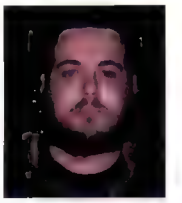
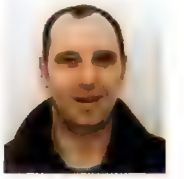
A&R, Columbia Records

Luke Cunningham
Label Manager, Freedom 4

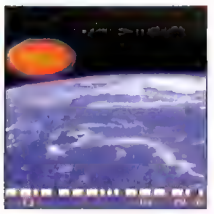


Sam Winwood
A&R, Sony S2



Sil Willcox
MD, Cruisin Music

LOOP STORM
Q: ONE EP



TM: Loop Storm have a strong grasp on what makes a decent song. From the off, the structure (albeit slightly obvious at times) and the instrumentation smack of quality and experience. 'Just A Matter Of Time' kicks off with a lush combo of harsh pads and calming textures. The sultry vocals and slightly trip hop-y programming make this as intriguing as it is original. I'm not overly sure about the drums and the whole mix in general; it's all slightly muddy. That said, they're certainly on the right path.
Sam: I don't like this; please turn it off!
Luke: Can we please have some decent vocals! This otherwise good track suffers from dull vox.
Simon: This is an Everything But The Girl-type thing with anything but the talent, I'm afraid. Tracy Thorn has one of those special voices that could sing just about anything and sound totally wonderful. The fact that EBTG also write really good songs is what makes them stand out from the rest.
Sil: The awful recording and rhythm programming unfortunately don't do this vocalist any favours.

More from: Loop Storm Tel: 07901 708495

LUNARSEA
DEMO

TM: This is an odd mix of the spoof-y electronica that the likes of Apollo 440 execute so well, with quite spine-chilling and melodic song-based structures. The way that many of the elements remain understated while being an integral part of the overall vibe is admirable. It could be accused of being a tad dated, but that never stopped anyone did it?
Sam: It's short and sweet, but there isn't much substance to it.
Luke: That's more like it! Atmospheric, cheeky drum samples and clever use of vocal stabs – very classy. Warp or Flying Rhino might well go for this.
Simon: This is a silly little Euro/drum'n'bass track with an ordinary-sounding, drifty female vocal doodling around with nothing to say or sing – it's just used because the band wanted it to be there. This sometimes works if you can exhibit a beautiful-sounding voice, display enough skill to get excited about and know what you're doing.
Sil: Good name but it sounds like a sample tape straight out of the Beeb's Radiophonic Workshop. Try *Dr Who*.

More from: Fiona Tel: 01306 631104

URBAN TRIP
LOST IN SPACE

TM: This wants to be David Bowie in his *Earthling* drum'n' bass days. And it's almost perfect – except that it has already been done. Most people would agree that anyone who tries to impersonate Bowie sounds like a twit.
Sam: Huge guitars coupled with a teeny weeny drum loop. Disappointing.
Luke: Apollo 440 with the fun sucked out and Spacehog squashed in springs to mind. Odd.
Simon: Lead guitar à la 'When Doves Cry' with a Boss Octave 8 pedal on it and lots of divebombing, man! The very boring verse is followed by a good-sounding chorus, but everything is flying at you from all directions. There's nothing to remember other than the divebombing, octaving soundalike! That said, the singer's got a fairly good voice, means what he sings about and is probably worth keeping an eye on to see what his newer tracks sound like.
Sil: A Bowie-esque concept with vocals that have potential, but unfortunately escalate to a chorus that sonically implodes on first listen. The arrangement does, in fact, improve as the song goes on.

More from: urbantrip@subnet.at

a&r checklist

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- Decent quality cassettes, (preferably chrome type II), CD, DAT or MiniDisc.
- A kit list of the gear used to produce the demo.
- A biography of the act. We want to know all about you, your studio and your production background!
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30 Monmouth St,
Bath, England BA1 2BW

MONOTYPE WHERE'S THE PARTY KAMIKAZE

TM: He's quite a brave chap, our Monotype. He doesn't really give a flying proverbial about fitting into specific styles (although it's a mixture of big beat, drum 'n' bass and a smattering of garage-y nuances) and his individuality is stamped all over the shop. This is likely to be his main selling point if he's going to make a killing (so to speak). He could be accused of being formulaic and clichéd, but we're gonna stick to our guns and hail him as being an original risk-taker. Let's face it, there's bound to be room for a few more. So there!

Sam: This track is reminiscent of an itch you can't scratch.

Luke: A great, big, dirty gorilla of a tune; play it loud and annoy the neighbours.

Simon: Yet another Euro/drum 'n' bass-type track with nothing to sing about and nothing to distinguish it from similar tracks. It's not as though there is a great underground thing happening here, this is just bedroom beginners' stuff, with the best of it eventually ending up on one of the lesser-known, downloadable free-music websites. Are these people being cloned somewhere by synth manufacturers to boost sales of their keyboards or something? Perhaps they hail from the same Surrey laboratory as Prime 8.

Sil: It sounds like this outfit are just trying too hard to be weird. Simply twaddle.

More from: Marc J Smith Tel: 0777 555 8044

PRIME 8 DEMO

TM: Very off-the-wall, very funky, very aggressive and very drum'n'bass. The drum programming is a welcome relief from your 'grab a loop' mentality, as is the fabulous transposed slap bass (probably a sample, but hey, if the capo fits…). Quite where this fits into the scheme is a difficult one and this is part of its quirky appeal. It sits alongside some of Goldie's more melodic meanderings and has smatterings of James Hardway soulfulness to boot. It's all produced with a sensitive ear, but is let down by some preset-sounding lead lines. It may be time to look at some more versatile kit – a sampler may just give a lease of life.

Sam: Atonal drum'n'bass bonkersness. I rather like it.

Luke: This is less subtle than Monotype's effort but equally aggressive. It's good fun but ultimately tired.

Simon: My theory on this demo is that Prime 8 are three young Rhesus monkeys that have been put amongst some synthesizers somewhere out in a Surrey laboratory. The activity has been recorded and edited and this is the result. It's completely awful in terms of our global cultural musical heritage, but as far as experimenting with primates goes, it's absolutely stunning.

Sil: Interesting production. It seems to start well, but the lack of focus in basic arrangement leaves it going nowhere.

More from: Prime 8 Tel: 01707 887240

MACONHA DEMO

TM: Drum'n'bass with live guitars and sultry vocals sounds like a recipe for success, doesn't it? Well, with the exception of the weedy sounding 6-string shenanigans all over this demo, it is. It's all blissfully simplistic in approach, which is a rare and welcome change, and there are some fascinating production tricks going on throughout. However, (there had to be one, didn't there?) it lacks the balls and energy that would separate it from all the other people trotting out this kind of stuff, but only by a small margin. When you've decided which direction you want to go in, get back to us.

Sam: This track proves just how difficult it is to produce vocals really well.

Luke: A sweet voice, but sadly, a boring song.

Simon: This is bizarre. This collective sounds exactly like the last one: same silly Euro/drum'n'bass programme with no attitude or invention, same ordinary-sounding female vocal drifting in and out of the track. This time, amazingly, the singer has some lyrics to sing. This still isn't going anywhere, but it shows that loads of people are trying to make the same kind of music and in doing so, are making the same mistakes.

Sil: This interesting vocal delivery, which some people would like, unfortunately leaves me cold. I do like this song's overall simplicity, which therefore merits its worth, however it needs more work.

More from: maconha@netscape.net

demo of the month

OHM – SOUNDS OF THE UNIVERSE

TM: What is instantly endearing here is the speed with which OHM are able to captivate the listener with the energy of the opener 'Atomic Bomb'. Style-wise, it's a cross between some of those first rock/dance crossovers of the mid-'80's and cool, slightly industrial electronica, but there's also a timeless feel to it. The production is a little busy at times, but we'll give OHM the benefit of the doubt on this occasion and put it down to having an abundance of ideas. Singer Em has one of those girly-yet-quite-raw textures to her voice. This is likely to be a really strong selling point and we all know that character wins through every time, don't we? It's the kind of thing people are either gonna love or hate, so full marks for avoiding mediocrity. The following three tracks give an even stronger identity to OHM and show that they've really got their style nailed. If they pay a tad more attention to production details, they'll deserve to get noticed.

Sam: This is pretty standard, rocky bigbeat. The song is good but the production would benefit from a bit more attention.

Luke: This jumps out at you straight away! It's sort of EMF with a twist and gets a bit too busy at times, but the songwriting and structure are good – I wore this one out.

Simon: A very quirky track. There are some great arrangement ideas and good drum programming and apart from the totally over-used spoken film voice sample, it's ok. The singer's voice doesn't quite do it justice even though the energy and attitude are there. In fact, the voice probably lets the whole track down a pity as this lot have a load of energy that I liked.

Sil: I find the overall recording of this track very well-produced and thought-out. It seems lots of attention has been focused on making a quite mediocre song into a sonically strong master recording. On a second listen I was beginning to actually enjoy this music, but I would hesitate to sign it as getting radio to play this would be almost impossible. If they have some more instantly absorbing material they should shop that to A&R first.

More from: OHM Tel: 01222 460757

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track 02
OHM: 'Atomic Bomb'
Industrial-inspired electronica with attitude is OHM's particular bag, and they've got it nailed…

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Yamaha SU700 mint, home use only, boxed, manual, disk, CD £500 or will consider swap for Akai S1000 with Zip (or better). Tel Alex on 01765 658904 (North Yorkshire) after 4.30pm

COMPUTERS

Apple Mac clone Starmax 4200 604e, 200MHz, 96Mb RAM, 1.2Gb hard drive, floppy drive, CD-ROM, SCSI, serial, keyboard, mouse and Apple 1705 17-inch monitor £550 ono. Tel 01752 600733 (Plymouth)

Apple Mac LC630, 36Mb RAM, 250Mb hard drive, 15-inch colour monitor, *Cubase V2.5, Director V7, Quark V3.31* £250. Tel Simon on 0966 302290 (North London)

Apple Power Mac G3 266MHz, 128Mb, monitor and Korg 1212 soundcard. Tel Graeme on 0141 945 0822 (Glasgow)

Atari AT/1 meg computer with Hi-Res 14in (b/w) monitor and cubase software. Music sequencing outfit. Good condition £160. Also spare Hi-res monitor £75 Richard email NOR999@aol.com Tel 020 8668 6173

Atari 520ST 4Mb, 100Mb hard drive, 14-inch monitor, second floppy drive, 520ST, *Notator, Logic, Unitor2,* SMPTE, Philip Rees V10 and 5S £350. Tel 01932 872495 (Surrey) or e-mail: nigel.hooton@virgin.net

Atari 520 STFM upgraded to 1Mb, mouse, joystick, masses of software £60 ono. Tel 0370 504175 or e-mail: cmcandrew@aylesburyvaledc.gov.uk

Atari 520 STFM with SM124 hi-res mono monitor, boxed, original manuals, dust covers, as new condition, software £90. Tel Ian on 01628 526494 (High Wycombe area)

HARDWARE/SOFTWARE

Atari hardware and software for sale, Unitor N; Notator 3.2 boxed with manual, disks dongle and video tutorial; Awai CD-ROM with cable; Hard drive with Link. Open to reasonable offers. E-mail trustworthy@netscapeonline.co.uk

For Sale Sound Editing - DAW set-up AKAI DD1500 Digital Audio Workstation - Hard Disk Recorder/ Editing System Fully Loaded, latest software. DL1500 controller, DD1500m processor. 20 Analogue Outputs, 8 Analogue Inputs, 4 AES Digital I/O Edit across 16 tracks with x-fades. Exabyte Backup, 9Gb AV Hard drive with Mackie 32 Channel Analogue Desk, Large colour SVGA monitor, PMC-1 Monitor Speakers All required cable looms etc. One user owner. Not much used. £ 9,500.00 Reply to me Stuart Wilson on 0171 792 9149 e-mail stuartwilsons@netscapeonline.co.uk

M-Audio/Midiman Delta 44 24-bit, 96kHz, four I/O card for PC/Mac, two weeks old, boxed, perfect condition, will fit if required £200. Tel Will on 01264 889313 (Hampshire)

MotU MTPII MIDI interface for Mac £295. Tel Simon on 0966 302290

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RECORDING

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Fostex DMT8VL, 8 track hard disk recorder. SCSI, 6.4 GB hard drive. Solid performance. Manual £400. Ask for Richard. Tel: 0181 690 0978

Mackie 1402 VLZ new with manuals £275 ono. Tel Steve on 0973 620968

Neumann U87 AI microphone, brand new, guarantees, receipts, etc, £1380. email jakethesax@yahoo.com or Call on 0468 050 778.

Philip Rees TS1 MIDI/SMPTE tape sync. £100 new, yours for £65. Tel Ron on 01708 769993, e-mail: ron@rocketship.com

Roland VS-840 eight-track digital recorder with effects, perfect condition, hardly used, with manuals, only £450. Tel Barrie on 01904 654538

Roland VS-880 expanded, bedroom use only, all manuals, video manual, boxed. Also CD writer, hardly used, with manual and Adaptec recording software for Mac/PC £1,000 ono. Tel Rob on 01622 674373 or 681366

Roland VS880 expanded digital eight-track workstation, 64 virtual tracks, two onboard effects units, genuinely hardly used, perfect £650. Tel Phil on 020 7254 9977 or email: phil.fost@talk21.com

Shure headset mic cost £110 new, offers. Tel Keith on 0403 487731 or e-mail: the_defence@hotmail.com

Sony A6 DAT machine with remote control, excellent condition, hardly used £300. Tel 0115 914 9429

Spirit Folio F1 mixing desk, brand new, boxed, manual, 14 inputs, 2 bus, £200 ono Tel: James on 07144 099139 (Herts)

Roland RE-501 perfect condition plus leads. Great tape effects £350 (London) Robert 07990 747127

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Spirit By Soundcraft Folio F1 16-channel, low noise, excellent condition £220 ono. Tel James Gulland on 01622 737471 or e-mail: james@gulland.freeserve.co.uk

Spirit By Soundcraft FX16 four-band EQ, built-in Lexicon effects, 16-channel mixing desk £450 ono. Tel Simon on 01303 872996

Tascam DA88 plus SY88 sync card (digital 8-track) mint condition with brand new tape head and full service history £1599, Mackie 1604, offers, Fostex 280 4-track £175 phone Simeon 07956 299052

Tascam TSR8, eight track 1/2" reel to reel tape recorder, light use, but intermittent fault on one track with tapes £300 Tel: John 01603 810213 or 0771 3955075

Tascam DA20 MkII DAT machine for sale, still in its box and never been used, worth well over £400, quick sale £265. Tel Lee on 0114 247 6430

Tascam MS16 16-track reel-to-reel recorder, BEL noise reduction unit, remote control, manual, 16-track simultaneous recording with analogue warmth, excellent condition £1,200. Tel Daz on 0121 350 9713 (Birmingham) or e-mail: daz@deadpool.demon.co.uk

Tascam Porta 03 Ministudio, four-track tape recorder, never used £85. Tel Mark on 01404 891467 (Devon)

Yamaha 03D Digital Mixer, 26 inputs, 4 band EQ, moving faders, 32 bit DSP processing, boxed, new, manual only 3 months old £1450 Tel 01908 639908

Yamaha MD4 MiniDisc recording studio, four MiniIDisc data disks, excellent condition £350 ono. Tel Lea on 01753 880064 or e-mail: learog@globalnet.co.uk

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HHB Circle 5s speakers, boxed £250. Tel Pete on 07939 666433

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Alesis QS6 61 key synth mint condition, 3 months old, real nice sounds £275, Behringer 2642A mixer less than 1 year old £225, call Driss 07718 198725

Complete home studio; digital audio recorder; roland vs880 [first additon] 64 virtual tracks ! 500mb hard drive installed without fx board but can expand £319 - hardly used sampler: emu esi-32, 32 mb ram installed with scsi connector + iomega zip drive + 9 x-static goldmine 2,3&4 zip disks [4500 samples!] £566 mixing desk : spirit folio 12/2 mixer £109 compressor : alesis nanocomp £69 panning delay : boss rpd-10 £39 effects: zoom studio 1201 £49 pc: 486 100mhz 8 mb ram, windows for workgroups, with cubase score v2.0 & dongle + midiedge 2 midi inputs in ; 4 midi inputs out [64 channels of midi !] with monitor/win95 keyboard/mouse £249 all equipment in immaculate condition. asking price for everything £1299 tel no. 01263 513273 email . crmr16@aol.com

Drum'n'bass producer-mixer avaleble for pro work from hard and dark to light and atmosphearic sounds, have had couple of singles out, compilation, an album, contact jan 0956 4969 02 (london)

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Ovation Celebrity electro-acoustic guitar, as new, including hard case, only £300. Tel Barrie on 01904 654538

Records: House DJs, Back to 99/90 record collection, three boxes of around 300 12-inches, all original, covers and labels, no timewasters, may swap for equipment. Tel Vas on 0802 485724

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Roland SP-808 with OP expansion, hardly used, surplus to needs £480.

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Sony Portable DAT with manual, leads etc in original box £200 Stageline 500W power amp £200 Alesis QS6 keyboard with extra sound card and manual £450 Yamaha RY30 £150 150W 3way 10" speakers £130 could deliver, Jay 01634 309479 or ROCKINCREW@HOTMAIL.COM

Technics SL1200 MkII turntables, two, little used, five-channel mixer with built-in digital sampler, as new £450. Tel 01206 522593 (Colchester)

Technics SL1210 MkII (pair) with Stanton cartridges plus KAM GM25 MkII mixer, mint condition, ungigged £700 ono. Tel Steve on 0973 620968

Various Korg ER-1 £250, HHB Circle 5 passive £250, Oberheim MC-2000 £450, E-mu E-synthR EOS4.02, 128mb, CD-ROM, zip £1300, Roland VS-880EX, 4,3GB, £750, Kawai K5000S £550 all boxed Tel 07939 666433

Various: Akai S3000XL sampler, 32Mb, manual £800. Roland XP-10, manual £200. Atari 520 STE, 4Mb upgrade, dongle, *Cubase V2* and *V3* £100. MEQ230 30-band EQ £150. Yamaha 1202 12-channel mixer, stereo £200. Tel Jason on 07787 940971 *[or it could be 940972, we couldn't read your writing!]*

Various: Alesis MicroVerb 3, 1U rackmount effects unit £80. Drumtools sampling CD £30. Roland PC-200 MkII MIDI controller keyboard £35. Epiphone Les Paul, sunburst, immaculate, as new, with box £230. Digitech RP guitar effects, as new £95. Tel 01628 676055

Various: Alesis QS6 £400. Roland R-8 £180. Tascam 424 MkII £190. E-mu ESI32 with Zip drive £430. Yamaha CDR765 £280. Aphex Aural Exciter Type C2 £90 or £1,400 for all of the above. Tel 01892 549219 (Tunbridge Wells)

Various: Allen & Heath GS3000 desk £2,250. TLA EQ £370. Focusrite Compounder £420. Lexicon MPX100 £170. Yamaha DJX £120. Tannoy Reveal £470. Samson Servo 250 £200. Atari 1040 £200. Studio 64x interface £180. Shure SM58 £70. The lot for £6,000. Tel Darren on 020 8568 6387 or 0961 575515

Various: Behringer 8000A eurodesk £550. Autocom Pro £70. VIrtualizer Pro £85. With insert leads, all bedroom use only, boxed, manuals. Tel 01491 38897 or 0113 259 7786

Various: Boss SE-50, including rack adaptor £160. Zoom 1202 £60. Akai SG01k £80. MAM VF11 vocoder/filterbank (essentially same as Procoder PCP330) £180. All prices include p+p. Tel Danny on 00 32 3542 0411 (Belgium) or e-mail: syndromeda@planetinternet.be

Various: Casio CZ-101, edit software, sounds on disks £85. Casio HT-700 £65. Fostex X16 multitracker, port pack £75. All in good condition. Tel Brian on 01952 507115

Various: Casio FZ-10M, slight fault £250 ono. Yamaha TG500 £250 ono. Korg K1M £95 ono. Alesis MidiVerb 3 £75 ono. Alesis MidiVerb 2 £55 ono. Tel David on 02399 878967

Various: effects for sale, all boxed in good condition. Pearl Effector OC-07 Octaver £25. Boss DD-3 digital delay £40. Boss GE7 equalizer £25. Boss PSM-5 power supply and master switch £25. Cry Baby Wah-Wah £40. Tel 01403 274144

Various: E-mu Orbit V2 £400. Korg Electribe ER1 £200, Soundcraft Folio Notepad £100. As new, boxed, used three times, cables, under warranty. Also Yamaha EMP100 multi-effects £100. Offers accepted. Tel 020 8744 9718 or e-mail: robert@rspeight.demon.co.uk

Various: E-mu Ultra Proteus sound module with manual £400. Yamaha TG55 sound module, boxed with memory card and manual £200. Yamaha SPX50 £75. Realistic keyboard combo amplifier, 50W £100. Tel 07971 724115 (Brighton)

Various: Ensoniq VFX mega wavetable s+s, easily programmable, manual, very good condition £295 ono. Two keyboard flightcases, five-octave fit £45 each. 150 *FM* and *SOS* swap or sell all. Tel 01702 312748

Various: Fostex MN06 Jexamix mini mixer, six inputs, two stereo, two mono, excellent condition £45. ART MR1 reverb, excellent condition £40. Boss DR-5 drum machine £90. Tel Andy on 01253 890048 evenings

Various: Korg DDD1 digital drum machine, trig in/out, MIDI In/Out, three percussion cards £250. Casio HT-700 programmable digital synth £70. Boss BX-16, 16-channel mixer, effects send/return, two-band EQ £80. Philips DCC600 cassette deck £50. Tel Mark on 0121 427 6413 or 07939 304458

Various: Korg EX8000 £225. Kawai K1M plus cartridges £145. Waldorf Pulse £199. Yamaha TG33 £99. Alesis MidiVerb 3 £110. Joemeek VC3 £99. M1 cards £19. All very good condition. Tel 01708 250846

Various: Korg Wavestation SR £300. Korg M3R £140. Both with sound cards. Sony MZ35 MiniDisc Walkman £80. Tel Graham on 01223 564577 or 0403 474723

Various: Korg T3 keyboard, expanded version of the M1 £450. Roland S-10 sampler £80. Akai MG1214 12-track analogue recording desk/mixer £600. Roland TR-626 drum machine £100. JSH Digitec delay £50. Casio DA-1 DAT machine £90. Tel Alan on 01344 452060 or e-mail mclamusic@aol.com

Various: Mackie 32:8 £1,800. Akai S3200XL £800. Tannoy Rec 600 monitors £200. Yamaha TG500 £200. Studiotech Vocalist Plus £350. Tel Paul on 01224 571067

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Various: Novation BassStation rack. Behringer 2804A mixer. Behringer Dualfex. Behringer Composer Pro. Boxed, manuals, leads, seven months warranty, mint condition £570 ono. Tel Matt on 0410 817816 (Colchester)

Various: Roland A-33. Roland JV-1010, new with software. Zoom 1204, new. Atari STE, 4Mb, SM125 monitor, *Cubase V3.1*, MIDI files. All mint, boxed. Swap for Korg N1. Tel Phil on 01639 768103 (South Wales)

Various: Roland D-5 and Yamaha MU50 XG module, both with manuals and PSUs, swap both for Novation BassStation keyboard, Korg Electribe EA-1, Akai S950, Roland SPD8, Korg Poly 800 MK2. Tel Daniel on 01743 240501 or e-mail: daniel@mcenteed.freeserve.co.uk

Various: Roland JP-8000, boxed, manual, mint condition £600. Yamaha MT3X four-track recorder, six-track mixer, good condition, boxed, manual £140 ono. Zoom 1204 Pro studio

Various: Roland JV-1080, mint, box £450. SR-JV-8010 Techno card £100. SR-JV-8004 Vintage card £100. Korg Prophecy, mint, box £350. Mackie 1202VLZ, mint, box £200. Roland TR-606, manual, PSU £100. Tel Paul on 01727 767195 days or 07801 453376

Various: Roland JV-1080 with vintage expansion board. Boss SE-50 effects. Roland Juno 1. Casio CZ-1000. Atari 1040 with new monitor. Swap all for Novation Supernova or Roland JP-8080. Tel 01283 564084 after 8pm or 07939 431190 or e-mail: david@smallplanetz.freeserve.co.uk

Various: Roland JV-1080 with vintage board £550. Roland Juno 106 £400. Roland U-220 £200. E-mu EMAX II £400. Ensoniq VFX with four cartridges £350. Tel Rob on 01279 834426 or Darren on 01279 320186

Various: Roland JX-8P and PG-800 £400 ono. Roland Octopad 2 £250 ono. Tel Mike on 01284 810524

Various: Roland MC-303, boxed, manuals £250 ono. Yamaha SU10 sampler, boxed, manuals £150 ono. Roland TB-303 £375 ono. Swaps or part exchange considered. Tel Lisa on 07980 489725

Various: Roland MC-303, Evolution MK149 keyboard, Keyfax Phat.Boy, all excellent condition £250. Tel Graeme on 0191 534 1726

Various: Roland MC-303 Groovebox £300. Behringer Composer Compressor MDX2100 £100. Tel Mark 07808 126997 (Manchester area)

Various: Roland R-8, drum machine £175. Alesis MidiVerb 2 £90. Alesis MicroVerb £45. Tascam 644 MIDIstudio £175. Alesis MicroGate £40. AWE64 Gold soundcard £50. Hi-watt AP100 valve amp £300. Tel Simon on 07939 637268 (Surrey)

Various: Roland SH-101 £175. Yamaha QY20 £125. Yamaha RY20 drum machine £130. Roland TR-606 £100. tel Rob on 01406 363554 or e-mail: robinf@fidlerandco.demon.co.uk

Various: Roland TR-909 £600 ono. Jen SX1000, funky looking synth, three-octave keyboard with knobs £100. Yamaha TG55, 16-part sound module £80. Tel Martin on 01472 362792 or e-mail: martinwrightgrim@hotmail.com

Various: Seck 18:8:2 desk £400. Fostex Model 80 reel-to-reel £350. Boss SE 50 Pro studio effects £125. Sansui MDR7 MIDI-to-tape sync controller £100. VP11 parallel/midi port £30. Tel 01403 274144

Various: Yamaha A3000 V2, 2Mb RAM, 1Gb hard drive, expansion board, box, manuals, disks £800. Yamaha SY77, faulty disk drive £450. Yamaha MV1602 mixer, 16-channel £150. Yamaha FX500 £50. 24U rack unit £80. Or £1,450 for the lot. Tel Chris on 01325 312932 (Darlington) or 07717 867175

Various: Yamaha EX5R, mint £670. Roland JX-3P, mint £200. Boss ME-30 effects, brand new £110. Yamaha EMP700, worn £85. Kef Q15 speakers, mint £150 or swap. Tel Andrew on 020 7478 4401 (London)

Various: Yamaha NS10M monitors £140. Yamaha SU10 sampler £80. Behringer Composer compressor £120. Behringer Dualfex enhancer £70. Roland MDC-1 £120. All excellent condition. Tel Neil on 01289 332217 or e-mail: neil@r001.freeserve.co.uk

Various: Yamaha SPX990 £350. Alesis 3630 compressor £80. Alesis QuadraVerb Plus, front light in display not working, hence £70. All boxed with manuals. Roland JD-800 synth £550. Korg 01R/W workstation module £300. Proteus 2 orchestral module £180. All in great condition, boxed with manuals. Tel Mark on 020 8287 5209 (South West London)

Various: Yamaha SY85 keyboard plus extra sounds and keyboard bag £400. Yamaha TG500 plus extra sounds £325. Korg M3R synth module £225. Alesis MicroVerb 2 £65. SPL Stereo Vitalizer £110. Behringer Dualfex 2 enhancer £80. 6U SKB flightcase £90. 8U SKB flightcase £110. Soundquest *MIDI Tools* for PC £20. Tel Carl on 01507 606956 or e-mail: carl@cstocks.freeserve.co.uk

WANTED

Apex Intimidation mixer or a mixer with good EQ and in good condition, will pay up to £150 for certain model. Also sampler such as Yamaha SU10 for around same price. Tel James on 01792 460400

Behringer MX2642A or MX2804A, 19-inch rackmount mixing desk, straight swap for my Akai S20 sampler, boxed with manuals and disks, in perfect condition, caller collects. Tel 01772 497186 (Preston)

Clavia Nord Lead 1 or 2 keyboard (if 1, expanded if possible), and a Roland SH-101 (colour doesn't matter although red or blue would be nice). Would also be good if they were mint and the manuals were there, maybe even boxed. Tel Brett on 01635 847608 or e-mail: subzerox@claramail.com

Manual for Roland MC-8 micro composer, plus other documents, Xerox or PC file formats OK. Tel or fax Evangelos on 00 30 4212 0476 (Greece) or e-mail: xirias@hol.gr

Moog Opus 3 wanted, will pay or swap you an ARP Axxe. Tel Kevin on 01563 571705

Roland RAS-770 expansion board, what the Mb fits on to plus memory for the S-770 or anyone selling a S-770 with the expansion board. Tel Vas on 0802 485724

Voice Crystal 2 RAM card for D-70 wanted. Tel 01244 818565

Will pay the following prices for: Akai S5000 £750, Allen & Heath GS3 £400, Nord Lead Rack £300, Emu Proteus 2000 £200, Finalizer Express £275, MDC-1 £100, Deep Bass 9 x 2 £100 each, Quasar (expanded) £250, Behringer MDX2200 compressor x 2 £75 each, Studio Quad 4 £125, Drum Station £125, Super Bass Station £100, must all be v.g.c. Tel: 0802 441780.

PERSONNEL

Belfast band, Massive Attack, Nine Inch Nails, Smashing Pumpkins, Death In Vegas, etc. Musicians, vocalists and technological wizards with positivity, time and own gear wanted Tel Mark on (Belfast) 841685 or 876492

Female vocalist wanted for soulful, disco, house projects, send demos to Andy Weaver, c/o Passion at the Emporium, 67 Belvoir Road, Coalville, Leicestershire, LE67 3PD

Good-hearted house lovers required into Omni Trio, Strictly Rhythm, Piano Goodness, Socialist Babies, only guitars, singers, ideas, people. Tel 01494 727045 or 07818 260380

Guitarist wanted to work closely on second album with producer. Influences: post-rock, jazz/rock fusion, prog, DJ Shadow, ECM, etc. S.East area, from Sept onwards danielberridge@hotmail.com.

Happy Hardcore/Bouncy Techno demo tapes wanted for release on established label. All tapes will be listened to. Contact James @ Hect Tech Records, Tel: 0802 441780

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I write songs and I'm looking for a versatile female vocalist, pop, rock, ballad and dance styles, I can record every song to CD. Tel Martin on 01705 430241 (Portsmouth area)

London-based producer with own equipment, specialising in hip hop, R&B, jungle and garage, offers services to people wanting to make tracks. Tel 07957 480 674 or e-mail: lazeerecords@hotmail.com

Musicians wanted for electronic warfare, Add N To X, Aphex Twin, Atari Teenage Riot. Tel 0/957 471923

Programmer/keyboard player wanted to form song orientated Post 2000 Electronica, Trip Pop influenced Band. Should be ambitious and have vision. 0207 538 20 73

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Production team looking for R&B singer male/female, own material very welcome, but not essential. Tel David on 01344 886621 or e-mail: beatgem@england.com

Professional bass player required to complete funk/rock/pop/blues style band, also backing vocals required, age 18-22, must be hard-working and professional, management contracts undergoing, currently recording in studio, Dorset-based. E-mail: othomas453@aol.com

Programmer/keyboard player wanted to form post-2000, electronica, trip pop-influenced band, should be ambitious and have vision. Tel 0171 538 2073

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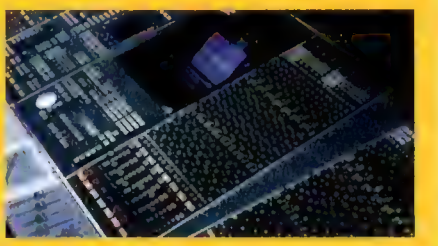

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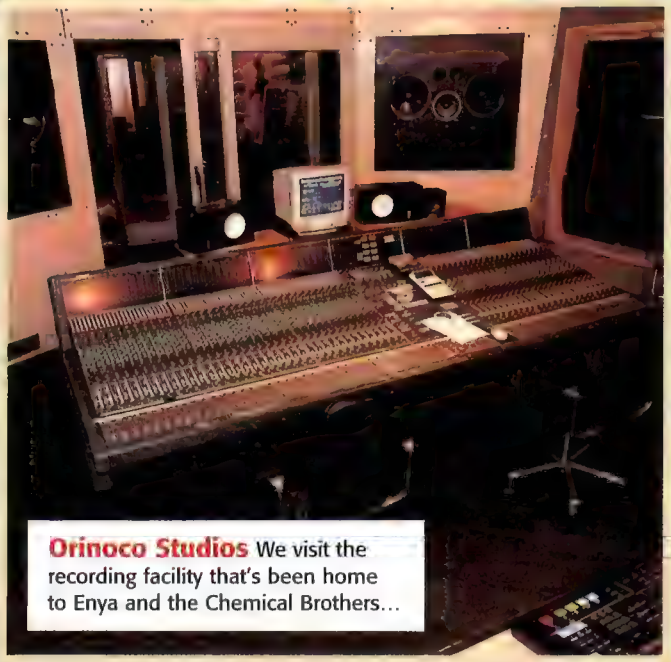

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Korg We check out the retro-inspired analogue modelling synth rack

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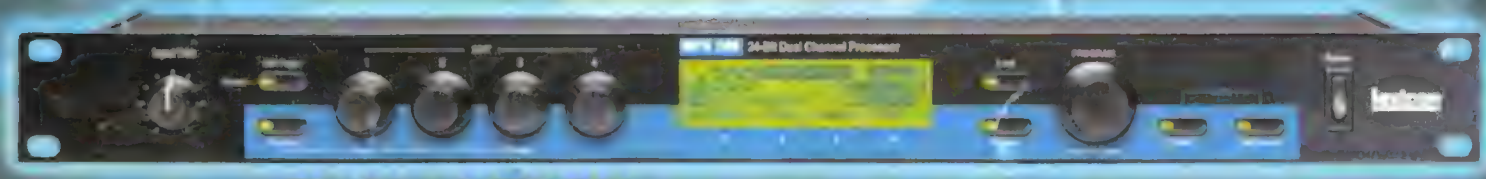

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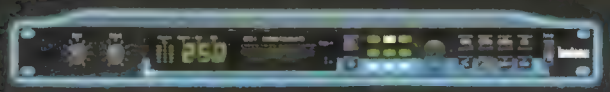

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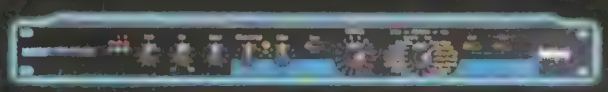

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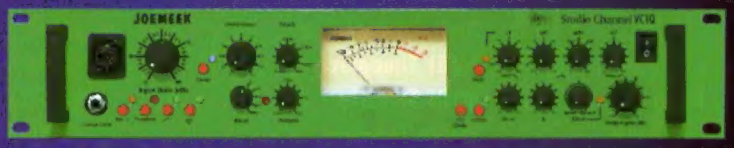

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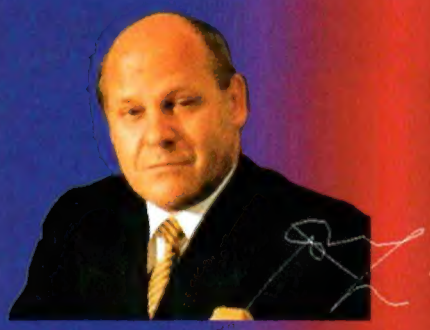

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